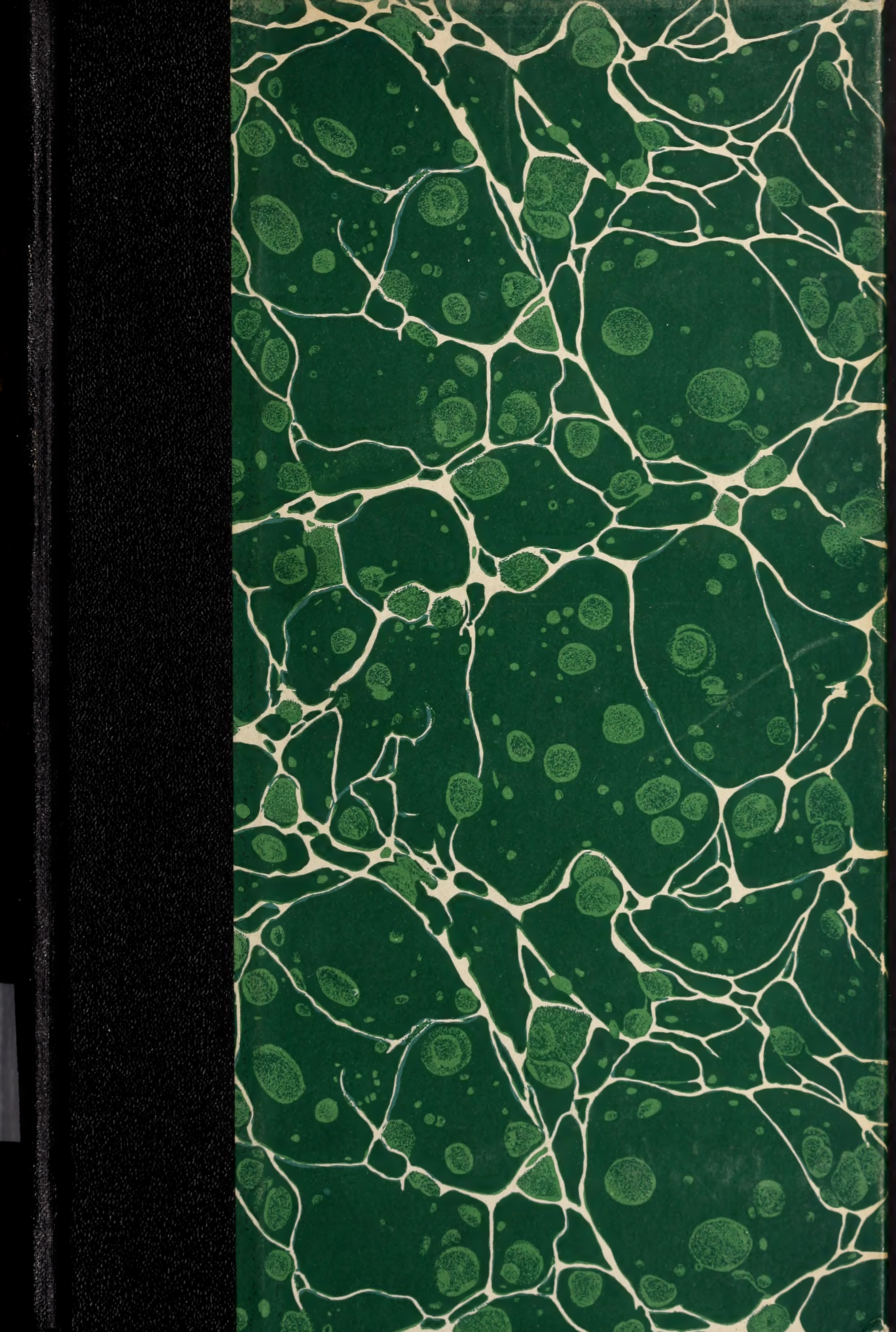

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ERRATA

Page 6, line 29 from top (Ahlmann, H. W.), *for* jordskorparrs *read* jordskorpans.
,, 6 ,, 20 ,, bottom (Airaghi, C.), *for* Rispirta *read* Risposta.
,, 7 ,, 15 ,, ,, (Almazan, C.), *for* pezo *read* pozo.
,, 9 ,, 20 ,, top (Andersson, G.), *for* Hvarifrån härstamma *read* Hvari från härstamma.
,, 14 ,, 4 ,, ,, (Anten, J.), *for* Parenoart *read* Parensart.
,, 18 ,, 9 ,, ,, (Bado, A. A.), *for* alumonio *read* aluminio.
,, 25 ,, 34 ,, ,, (Baumhauer, H.), *for* WO *read* WO_3.
,, 27 ,, 5 ,, ,, (Belot, E.), *for* exczs *read* excès.
,, 29 ,, 35 ,, ,, (Bertrand, C. E.), *for* Lericke *read* Leriche.
,, 35 ,, 28 ,, bottom (Botezat, E.), *for* Auerodis *read* Aurochs.
,, 37 ,, 29 ,, ,, (Bowen, N. L.), *for* Cacoclasite *read* Cacaclasite.
,, 40 ,, 14 ,, ,, *for* Brock, E. W., *read* Brock, R. W.
,, 54 ,, 5 ,, ,, (Carvallo, —.), *for* Boussinesq, J. 7 *read* Boussinesq, J. 17.
,, 55 ,, 26 ,, ,, insert C. after Castro.
,, 69 ,, 27 ,, top (Conrad, V.), *for* B. Januar *read* 13. Januar.
,, 76 ,, 5 ,, ,, (Danielsen, D.), *for* flyvesundsbeltet *read* flyvesandsbeltet.
,, 79 ,, 18 ,, bottom, *for* Delgrono, M. *read* Delgrosso, M.
,, 87 ,, 14 ,, top, *for* Drysdade, C. W. *read* Drysdale, C. W.
,, 92 ,, 32 ,, bottom (English, W. A.), *for* Gastropals *read* Gastropods.
,, 102 top line, *for* Fourmarier, E. S. *read* Fourmarier, P. 8.
,, 105 line 26 from top (Galvez, V.), *for* Hidrologin *read* Hidrologia.
,, 107 ,, 26 ,, ,, (Geer, G. de), *for* läugs *read* längs.
,, 109 ,, 32 ,, bottom, *for* Gerber, R. *read* Gerber, E.
,, 112 ,, 23 ,, ,, (Glangeaud, P.), *for* Pux-Gros *read* Puy-Gros.
,, 118 ,, 5 ,, ,, (Gregorio, A. de), *for* urnani *read* umani.
,, 132 ,, 24 ,, ,, (Hecker, O.), *for* Beridit *read* Bericht.
,, 132 ,, 21 ,, ,, (Hecker, O.), *for* Versiche *read* Versuche.
,, 135 top line insert G. C. before Baldwin.
,, 150 line 25 from bottom (Jaggar, T. A.), *for* Kilanea *read* Kilauea.
,, 153 ,, 34 ,, top, *for* Johannsson and Johannson *read* Johansson.
,, 153 ,, 36 ,, ,, *for* Johannson *read* Johansson.
,, 163 ,, 9 ,, bottom, *for* Tornquist, A. *read* Tœrnquist, A.
,, 175 ,, 25 ,, ,, (Lemoine, Mme. P.), *for* Corallinacéas *read* Corallinacées.
,, 177 ,, 32 ,, top (Lightfoot, B.), *for* Waukie *read* Wankie.
,, 177 ,, 25 ,, bottom (Lincio, G.), *for* Suergiu *read* Suergin.
,, 181 top line (Loys, F. de), *for* My onite *read* Mylonite.
,, 186 line 32 from top (Madsen, V.), *for* Louise le Maire *read* Louis le Maire.
,, 187 ,, 3 ,, bottom (Manasse, E.), *for* Racce *read* Rocce.
,, 191 ,, 13 ,, top (Martin, K.), *for* Nanggulam *read* Nanggulan.
,, 192 ,, 33 ,, ,, (Matthew, G. F.), *for* Eegion *read* Region.
,, 314, col. 2, line 24 from top (Acila), *for* Clerk, B. L. *read* Clark, B. L.
,, 315 ,, 1 ,, 31 ,, ,, (Adamello), *for* Henry, G. *read* Henny, G.
,, 323 ,, 2 ,, 24 ,, ,, (Apatite), *for* Grijer, P. *read* Geijer, P.
,, 325 ,, 2 ,, 17 ,, ,, (Armagnac), *for* Dollfut, G. F. *read* Dollfus, G. F.
,, 328 ,, 1 ,, 6 ,, ,, (Aurochs), *for* Botzat, E. *read* Botezat, E.
,, 328 ,, 2 ,, 4 ,, ,, *for* Avea *read* Aves.
,, 329 ,, 2 ,, 36 ,, ,, (Banks), *for* Davia, W. M. *read* Davis, W. M.

ERRATA

Page 336, col. 1, line 18 from bottom (Bounyongia), *for* Etheridge, G. *read* Etheridge, R.
,, 340 ,, 1 ,, 23 ,, ,, (Calceolispongia), *for* Etheridge, F. *read* Etheridge, R.
,, 343 ,, 1 ,, 19 ,, ,, (Capromys), *for* Allan, G. M. *read* Allen, G. M.
,, 410 ,, 2 ,, 11 ,, top (Lakes, Java), *for* Wolverkamp, H. *read* Wolvekamp, H.
,, 419 ,, 1 ,, 17 ,, bottom (Mæandra), *for* Vaughn, T. W. *read* Vaughan, T. W.
,, 422 ,, 2 ,, 2 ,, top, *for* Algeria *read* Egypt.
,, 424 ,, 1 ,, 29 ,, bottom, *for* Peredes, T. *read* Paredes, T.
,, 430 ,, 1 ,, 35 ,, top, *for* Quartzite *read* Quartzsite.
,, 435 ,, 2 ,, 28 ,, bottom, *for* Shaw, E. W. 14 *read* Shaw, E. W. 15.
,, 447 ,, 2 ,, 20 ,, top, *for* Sulong, H. *read* Suleng, H.
,, 447 ,, 2 ,, 23 ,, ,, *for* Hegeland *read* Helgeland.
,, 450 ,, 1 ,, 5 ,, bottom, *for* Aagauer *read* Aargauer.
,, 473 ,, 1 ,, 7 ,, top, *insert* Oil *before* lands.
,, 475 ,, 1 ,, 20 ,, bottom, *for* colites *read* oolites.
,, 483 ,, 2 top line, *for* Deolter, C. *read* Doelter, C.
,, 485 ,, 1 line 12 from top, *for* Heise, G. W. 5 *read* Heise, G. W. 1–5.
,, 495 ,, 2 ,, 30 ,, bottom (Puschlav), *for* Staub, R. 2 *read* Staub, R. 3.
,, 510 ,, 2 ,, 31 ,, top, *for* elastic *read* clastic.
,, 511 ,, 2 ,, 31 ,, ,, *for* Serrivalle *read* Serravalle Scrivia.
,, 514 ,, 1 ,, 17 ,, ,, *for* Silver-load *read* Silver-lead.
,, 529 ,, 1 ,, 31 ,, bottom (Topaz rock), *for* Colins, J. H. *read* Collins, J. H.
,, 544 ,, 1 ,, 4 ,, ,, *for* Aisna *read* Aisne.

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LIST OF ABBREVIATIONS.

Aarb.	Aarbog.
Aarsb.	Aarsberetning.
Abh.	Abhandlung.
Abs.	Abstract.
Acad.	Academia, Académie, Academy.
Accad.	Accademia.
Afr.	Africa.
Agric.	Agricultural.
Akad.	Akademie.
Am.	America, American.
An.	Anales, Anuario.
Angew.	Angewandt.
Ann.	Annalen, Annales, Annali, Annals, Annual.
Anst.	Anstalt.
Ant. Alzate.	Antonio Alzate.
Anthrop.	Anthropological.
Anz.	Anzeiger.
Arch.	Archives.
Ark.	Arkiv.
Årsb.	Årsbok.
Asiat.	Asiatic.
Assoc.	Association.
Austr.	Australia.
Austral.	Australasia.
Av.	Avancement.
B.C.	British Columbia.
Beitr.	Beitrag, Beiträge.
Belg.	Belgique.
Ber.	Bericht, Berichte.
Besk.	Beskrivning.
Bibl.	Bibliographie.
Bol.	Boletin.
Boll.	Bollettino.
Bot.	Botany, Botanik, botanisch.
Br.	Branch.
Brit.	British.
Brux.	Bruxelles.
Bull.	Bulletin.
Bur.	Bureau.
Cab. S.M.	Cabinet de Sa Majesté.
Calif.	California.
Canad.	Canadian.
C.E.	Civil Engineers.
Chem.	Chemical.
Cienc.	Ciencias.
cient.	científica.
Coll.	Collection, College, Colliery.
Com.	Comitato, Comité.
Comm.	Commission.
Commiss.	Commissão.
Communic.	Communicações.
Comp.	Comparative.
Conch.	Conchyliologie.
Connect.	Connecticut.
Conserv.	Conservation.
C.R.	Compte rendu.
Crist.	Cristallografia.
Dan.	Danmarks.
Delfstoff.	Delfstoffen.
Denkschr.	Denskchriften.
Dep.	Department.
E.	East.
E. & W.	England & Wales.
Earthq.	Earthquake.
Econ.	Economic.
Edinb.	Edinburgh.
Eng.	Engineers, Engineering.
Erdk.	Erdkunde.
Erläut.	Erläuterung.
Expl.	Explanation.
f.	för, für.
F.-C.	Field-Club.
Fören.	Förening.
Förh.	Förhandling.
Fortschr.	Fortschritt.
franç.	français.
fribourg.	fribourgeoise.
Geogr.	Geographia, Geographical, Geography.
Géogr.	Géographie.
Geol.	Geologicæ, Geological, geológico, geologisch, geologisk, Geologists', Geology.
Géol.	Géologie, géologique.
Geophys.	Geophysik.
Geotechn.	Geotechnisch.
Gesellsch.	Gesellschaft.
Giorn.	Giornale.
glaciol.	glaciologico.
Gletscherk.	Gletscherkunde.
Govt.	Government.
Gr. Br.	Great Britain.
Guard.	Guardian.
Handb.	Handbuch.
Handl.	Handlingar.
Helv.	Helvetiæ.
Hist.	Histoire, History.
Hüttenw.	Hüttenwesen.
Ill.	Illinois.
Imp.	Imperial.
Ing.	Ingenieros.
Inst.	Institute, Institution, Instituto.
Invest.	Investigations.
Ist.	Istituto.
Ital.	Italia, italiano, italico.
Jaarb.	Jaarboek.
Jahrb.	Jahrbuch.
Jahresb.	Jahresbericht.
Jorn.	Jornal.
Journ.	Journal.
K., Kgl.	Kongelige, Kongliga.
k.	kaiserlich, königlich, kongelig.
Komm.	Kommission.
Krist.	Kristallograpnie.
Lab.	Laboratoire.

Landesanst. Landesanstalt.
Lefnadst. Lefnadstockningar.
Linn. Linnean, Linnéenne.
Lit. Literary.
lomb. lombardo.
Mag. Magazine.
Malac. Malacological, Malacologique.
Manch. Manchester.
Matér. Matériaux.
M.E. Mining Engineers.
Mech. Mechanical.
Med. Medicina.
méd. médicale.
Meddel. Meddelelser.
Mededeel. Mededeeling.
Mem. Memoirs, Memorias.
Mém. Mémoires.
Metall. Metallurgy, Metallurgical.
Micr. Microscopical.
Mijnw. Mijnwezen.
Min. Mineral, Mineralogi, Mineralogia, Mineralogie, Mineralogical, mineralogico, minéralogique, mineralogisch, Mineralogy.
Misc. Miscellaneous.
Mitt. Mitteilung.
Monogr. Monograph, Monographia, Monographie.
Mus. Musée, Museo, Museum, Muséum.
N. North.
nac. nacional.
Nat. National, Natural, naturelle, naturali, Naturalist, Naturalista.
Naturf. Naturforscher, naturforschend.
naturh. naturhistorisch.
Naturw. Naturwissenschaft.
Ned. O.-Ind. Nederlandsch Oost-Indië.
N.J. New Jersey.
Norm. Normandie.
Notizbl. Notizblatt.
nouv. nouvelle.
N.S. Nova Scotia.
n.s. new series, neue folge.
N.S.W. New South Wales.
N.Y. New York.
N.Z. New Zealand.
Observ. Observatory.
Occ. Occasional.
Ofversiktsk. Ofversiktskart.
oural. ouralienne.
Overs. Oversigt.
Pal. Palæontologia, Palæontological.
Paléont. Paléontologie.
Paléozool. Paléozoologie.
Parerg. Parergones.
petr. petrographisch.
Petrogr. Petrographie.
Phil. Philosophical.
Philad. Philadelphia.
Phys. Physical, Physique.
Polyt. Polytechnic, polytechnica, Polytechnikum.
prat. pratica.
Prehist. Prehistoric.
preuss. preussisch.
Proc. Proceedings.
Proc.-verb. Procès-verbaux, Processi-verbali.
Prof. Professional.
Progr. Progress.
Publ. Publications.
Quart. Quarterly.
Queensl. Queensland.
R. Real.
Rec. Records.
Reg. Regional.
Reichsanst. Reichanstalt.
Rendic. Rendiconti.
Rep. Report.
Res. Resources.
Rev. Review, Revista, Revue.
Rijksop. Rijksopsporing.
Riv. Rivista.
Roy. Royal, Royale.
Rundsch. Rundschau.
S. South.
Samml. Sammlung.
Schr. Schrift.
Schw. Schweizer.
Sci. Science, Scientific, scientifique, Scienze.
Scott. Scottish.
Sect. Section.
Seism. Seismological.
Selsk. Selskab.
Serv. Service, Servico.
Sicil. Siciliana.
Sitz. Sitzungsbericht.
Skrift. Skrifter.
Smithson. Smithsonian.
Soc. Sociedad, Société, Society.
St. Petersb. St. Petersburg.
Stockh. Stockholm.
Summ. Summary.
Surv. Survey.
Sver. Sverige.
Techn. Technologists, Technology.
Tidsskr. Tidsskrift.
tosc. toscana.
Trab. Trabajos.
Trans. Transactions.
Trav. Travaux.
u. und.
Undersög. Undersögelse.
Undersökn. Undersökning.
ung. ungarisch.
Univ. Università, Université, University.
U.S. United States.
vaud. vaudois.
Ver. Verein.
Verh. Verhandlung.
Vet.-Akad. Vetenskaps-Akademie.
Veterin. Veterinaria.
Vidensk. Videnskaberne.
W. Western.
Wash. Washington.
Wissensch. Wissenschaft, wissenschaftlich.
Yorks. Yorkshire.
Zeitschr. Zeitschrift.
Zentralbl. Zentralblatt.
Zool. Zoological, Zoology.

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—— (East).—Schuchert, C., 16; *See also* East African Protectorate, Portuguese East Africa, &c.
—— (Equatorial).—Hill, H. W.
—— (North).—*See* Egypt, Algeria, &c.
—— (South).—Chapman, F., 13; Du Toit, A. L., 1–4 & 6–9; Rogers, A. W., 1–10; Schwarz, E. H. L., 1–7; Wagner, P. A., 2, 3, & 5–8.
—— (—), minerals.—Hahn, P. D.; Hall, A. L., 1–7; Kloot, A.; McDonald, D. P.; Rindl, M. M., 1 & 2; Stanley, G. H., 2.
—— (—), palæolithic man in.—Fitzsimmons, F. W.; Peringuey, L., 1 & 2.
—— (—), Permo-triassic reptilia in.—Broom, R., 3 & 5; Haughton, S. H., 1–6; Watson, D. M. S., 1.
—— (—), precarboniferous glacial deposits in.—Cloos, H., 2.
—— (—). *See also* SOUTH AFRICA, 1–8.
—— (South-West).—Shand, S. J., 2; Wagner, P. A., 1; *See also* German South-West Africa.
—— (Western).—Ford, S. H.; Hubert, H., 1–8; *See also* Congo, Guinea, &c.
Aftonius.—Hay, O. P., 1.
Agardhalli (Mysore).—Balaji Rao, B., 2.
Agaricia.—Vaughan, T. W., 12.

Agasoma.—Anderson, F. M.; Clark, B. L., 5; English, W. A., 1.
Agassiz, Lake (N. America).—Johnston, W. A., 5 & 7; Upham, W., 2.
Agassizia.—Clark, W. B., 3; Dickerson, R. E., 14.
Agglomerates, Fifeshire.—Wallace, Mrs.
Agicondi Prov. (Australia).—Jensen, H. I., 8.
Agincourt (Ontario). Jackson, W. E. W., 1 & 2.
Aginka (Siberia). — Polenoff, B. C.
Agnostus.—Illing, V. C., 1; Nicholas, T. C., 2; Raymond, P. E., 5.
Agraulos.—Illing, V. C., 1; Mansuy, H., 3; Nicholas, T. C., 2; Walcott, C. D., 3, 7 & 8.
Agria.—Douvillé, H., 1.
Agricolite.—Doelter, C., 2.
Agriotes.—Wickham, H. F., 1.
Aguilarite.—Panebianco, G., 1.
Agulhas, Lost land of.—Schwarz, E. H. L., 2.
Aiguiller, L' (Auvergne).—Glangeaud, P., 13.
Aiguilles-Rouges (Switzerland).—Lugeon, M., 5 & 7; Meyer, J.
Aimulosia.—Canu, F., 4.
Ainsworth mining camp (B.C.).—Schofield, S. J., 3.
Air blasts, in coal mines, B.C.—Rice, G. S., 1.
Aisne (France).—Charpiat, R., 4, 8, 9 & 11.
Aix d'Angillon, Les (Cher).—Grossouvre, A. de, 3.
Aix-en-Provence. — Meunier, F.; Repelin, J., 6; Vasseur, G.
Aix-les-Bains (France).—Davis, W. M., 14.
Ajer Gedang Ilir (Sumatra).—Caron, M. H.
Ajo, Sierra del (Arizona).—Joralemon, I. B.
Ajoie (Eisgau) (Switzerland).—Hummel, K. L.
Ajuga.—Reid, C., 6.
Akasaka (Japan).—Deprat, J., 2.
Akenobe (Japan).—Kato, T., 4.
Akera.—Newton, R. B., 9.
Akidnognathus.—Haughton, S. H., 6.
Ala (Trentino).—Gonnard, F., 4.
Alabama (U.S.A.).—Berry, E. W., 19.
—— (—), mineral production.—Abele, C. A.; Smith, E. A., 1.
—— (—), minerals.—Hager, D., 4; Prouty, W. F.; Vander Meulen, P. A., 1; Van Horn, F. R., 3.
Alais (S. France).—Termier, P., 14; Thiéry, P., 2 & 3.
Alaria.—Trechmann, C. T., 5.
Alaska (U.S.A.). Capps, S. R., 1–7; Eakin, H. M.; Henning, K. L.; Kirk, E., 1 & 2; Leffingwell, E. de K.; Martin, G. C., 1 & 2; Moffit, F. H., 1 & 2; Pogue, J. E., 1.
Alaska (U.S.A.), glaciation.—Cadell, H. M., 3.
—— (—), Jurassic flora.—Knowlton, F. H., 5.
—— (—), minerals.—Bateman, A. M., 2; Brooks, A. H., 1–3, 5 & 6; Johnson, B. L.; Wright, C. W.
—— (—), water power.—Ellsworth, C. E., 2.
—— (—), water-supply.—Ellsworth, C. E., 1.
Alban Mts. (Italy).—Rosati, A., 1; Starabba, F. S.; Zambonini, F., 8.
Albania.—Dedijer, J.; Niculescu, C., 2.
Albany (New York).—Newland, D. H., 4.
Alberta (Canada).—Alcock, F. J., 1; Allan, J. A., 1–5; Burling, L. D., 1 & 3; Cairnes, D. D., 1; Ells, S. C., 1 & 2; MacKenzie, J. D., 1 & 3; McLearn, F. H., 2, 4, 5, 7 & 8; Stewart, J. S., 1–4.
—— (—), Cretaceous vertebrata.—Brown, B., 1–4; Lambe, L. M., 1–5; Matthew, W. D., 3; Parks, W. A., 3; Sinclair, J. H., 1; Sternberg, C. H.; Woodward, A. S., 14.
—— (—), coalfields.—Haanel, B. F., 2; MacVicar, J.; Rose, B., 6 & 8.
—— (—), minerals.—Camsell, C., 2 & 6; Dowling, D. B., 1, 3, 4, 10, 12, 13, 16 & 17; Parks, W. A., 1; Ries, H., 2 & 3; Schmid, H. S., de.
—— (—), oil- & gasfields.—Slipper, S. E., 1–5.
—— (—), thermal springs, Elworthy, R. T., 1.
—— (—), water-supply. Dowling, D. B., 9 & 14.
Albertella.—Walcott, C. D., 7.
—— fauna, W. Canada & Montana.—Burling, L. D., 1; Walcott, C. D., 7.
Albian, Algeria.—Joleaud, J., 2.
——, France.—Combes, P; Kilian, W., 8.
Albigna Mt. (Lombardy).—Cornelius, H. P., 1; Sangiorgi, D., 1.
Albite.—Graham, R. P. D., 4; Kôzu, S., 3; Lewis, W. J.; Lincio, G., 3.
—— -granophyre, Cumberland.—Holmes, A., 13.
Albitization.—Geijer, P., 4; Sundius, N., 4.
Alca.—Munthe, H., 5.
Alcapedrinha (Portugal.)—Souza-Brandão, V., 3.
Alces.—Hay, O. P., 1.
Alcyonaria, Palæozoic.—Robinson, W. I., 2.
——, composition of.—Clarke, F. W., 8.
——, reef-building.—Cary, L. R., 1 & 2.
Aldgate (S. Australia).—Connor, J. D.

Alectrion.—Dall, W. H., 2.
Alectryonia.—Cossmann, M., 5 & 7; Greco, B., 4.
Alepidaster.—Schuchert, C., 2.
Alessandria (N. Italy).—Roccati, A., 4.
Alesses (Valais).—Lugeon, M., 7.
Alethopteris. Stopes, M. C., 1; Wieland, G. R., 1.
Aletornis.—Shufeldt, R. W., 2.
Aletsch glacier (Switzerland).—Swiderski, B.
Alexandria division (S. Africa).—Juritz, C. F., 1.
Alexandrian series, Mississippi Valley.—Savage, T. E., 3 & 4.
Alexia.—Morgan, J. de, 3.
Alexo (Ontario).—Baker, M. B., 2.
Algæ, calcareous.—Blackwelder, E., 2; Samsonoff-Aruffo, C., 1 & 4.
——, concretions formed by.—Roddy, H. J.
——, Cretaceous.—Fritel, P. H., 3.
——, Eocene,—Davis, C. A., 2.
——, Pliocene.—Wieland, G. R., 2.
——, pre-Cambrian.—Walcott, C. D., 2.
——, silicification of limestones by.—Lapparent, J. de, 5.
Algal deposits, pre-Cambrian & Carboniferous.—Twenhofel, W. H., 8.
—— limestones. Angola.—Romanes, M. F.
—— ——, Hudson Bay.—Moore, E. S., 5.
—— ——, Sweden.—Wiman, C., 2.
Algarve, Prov. (Portugal).—Sousa, P. de, 4, 7 & 8.
Algeria.—Dalloni, M., 1–5, 7–12; Joleaud, L., 1, 2 & 8; Lamothe, L. de, 1; Rauw, H. de, 1 & 2; Savornin, J., 2.
——, igneous rocks.—Brives, A., 2.
——, minerals.—Azema, L., 2; Brives, A., 1.
—— (Western).—Gentil, L., 8.
Algodonite.—Borgstroem, L. H., 3.
Algoma dist. (Ontario).—Tanton, T. L., 3.
Algonkian, Scandinavia.—Tœrnebohm, A. E.
——, ——, *See also* Pre-Cambrian.
——, Vermont.—Dale, T. N., 2.
——, organic remains in.—Walcott, C. D., 2, 10 & 11.
Algonquin Lake (Ontario).—Johnston, W. A., 3.
Ali R. (Sicily).—Stefani, C. de, 7.
Alicante, Prov. (Spain).—Dupuy de Lome, E., 4; Novo, P.
Alice Arm dist. (B.C.).—Turnbull, J. M.
Alisma.—Reid, C., 6.
Alkali felspars.—Mækinen, E., 4.
—— industry.—Martin, G.
—— rocks, S.-W. Africa.—Shand, S. J., 2.
Alkali rocks, Transvaal.—Brouwer, H. A., 5.
—— ——, Victoria.—Skeats, E. W., 4; Summers, H. S.
—— ——, origin of.—Daly, R. A., 15.
—— soils.—Shutt, F. T.
Alkalies, in water.—Bruckmiller, F. W., 2.
Alkalinity, of natural waters.—Prideaux, E. B. R.
—— of Roumanian mineral waters. —Giurgea, E., 7.
Allactite.—Doelter, C., 1.
Allalin glacier (Switzerland).—Luetschg, O., 2.
Allanite.—Pratt, L. S.; Watson, T. L., 2; Zenzén, N., 2.
Alleghany dist. (California).—Ferguson, H. G., 1.
Allemontite.—Doelter, C., 1.
'Allerod' period, Norway.—Nordmann, V., 2.
Allier R. (France).—Glangeaud, P., 5; Helbing, H.
Alligatorium.—Vidal, L. M.
Allixia.—Cossmann, M., 1.
Allophanite.—Doelter, C., 2; Wherry, E. T., 8.
Allops.—Osborn, H. F., 6.
Allorhynchus.—Weller, S., 1.
Allorisma.—Girty, G. H., 1 & 2.
Allosaurus.—Gilmore, C. W., 4.
Allt nan Uamh (Sutherlandshire).—Peach, B. N.
Alluvium, Allier valley.—Glangeaud, P., 5.
——, Auvergne.—Glangeaud, P., 10.
——, Chiese R. (Italy).—Caldera, F., 1.
——, Indo-Gangetic.—Hayden, Sir H. H., 1.
——, Mackenzie R. (Canada).—Kindle, E. M., 1 & 2.
——, Manitoba.—Johnston, W. A., 9–11.
——, Oise Valley.—Commont, V., 2.
——, Ottawa Valley (Canada).—Johnston, W. A., 8.
——, Rhone Valley.—Lamothe, L. de, 2.
——, Rome (Italy).—Meli, R., 4.
——, Vardar Valley (Macedonia).—Faucher, D., 2.
—— density of.—Collet, L. W., 9.
Almeria, Prov. (Spain).—Rubio, J. M., 1–3; Sierra, A. de.
Almeria R. basin, water-supply.—Lozano, R. S., 2.
Alnöite, Brazil.—Rimann, E., 1.
Alnön (Sweden).—Hedstrœm, H., 3.
Alnus.—Gertz, O., 1; Knowlton, F. H., 4; Marty, P., 2; Nordmann, V., 1; Reid, C., 6.
Alokistocare.—Walcott, C. D., 3.
Along, Bay of (Tonkin).—Deprat, J., 18.
Alopecognathus.—Broom, R., 5; Haughton, S. H., 6.

Aloposaurus.—Broom, R., 5.
Alost (Belgium).—Leriche, M., 5.
Alp Rischuna (Switzerland).—Kôzu, S., 3; Lewis, W. J.
Alpino-Dinaric boundary.—Henny, G., 1 & 3; Schwinner, R.
Alps, Apuan.—Preller, C. S. du R., 4.
——, Bernese.—Adrian, H.; Girardin, P., 8; Lugeon, M., 8; Niggli, P., 4.
——, Carnic.—Gortani, M., 2 & 3; Vinassa de Regny, P., 1 & 3.
——, Cottian.—Grill, E., 3.
——, French.—Boussac, J., 1; Kilian, W., 16–18; Lambert, J., 6; Termier, P., 13.
——, Lepontine.—Paulcke, W.
——, Ligurian.—Termier, P., 12.
——, Maritime.—Bucknall, C.; Franchi, S., 3; Guébhard, A., 15 & 17; Lanquine, A.; Maury, E., 1 & 2; Orcel, J., 2; Roccati, A., 1 & 5.
——, Piedmontese.—Bonney, T. G., 8; Preller, C. S. du R., 5–9, 12 & 13.
——, Rhætian.—Camerano, L.
——, Savoy.—Girardin, P., 4.
——, Swiss.—Buxtorf, A., 3; Girardin, P., 3; Heim, Arn., 2–4; Horwitz, L., 2; Ludwig, A., 1; Preiswerk, H., 1 & 2; Rollier, L., 9 & 10; Wehrli, L.
——, Venetian.—Boyer, G. R.
——, Western.—Argand, E., 1; Sacco, F., 4–6, 8 & 10.
——, mineral waters in the.—Jadin, F., 1.
——, passes of the.—Freshfield, D. W., 3.
——, silt in the.—Muentz, A., 1 & 2.
——, southern boundary of the.—Lugeon, M., 10 & 11.
——, structure of the.—Cochain, A., 3 & 4; Heritsch, F., 1 & 2; Sederholm, J. J., 6; Truempy, D.
Alsace-Lorraine.—Benecke, E. W.; Lapparent, J. de, 6 & 7.
Altai Mts. (Cent. Asia).—Tolmatcheff, I. P.
Altavilla (Sicily).—Cipolla, F.; Gregorio, A. de, 6.
Alten (Norway).—Holtedahl, O., 3.
Alter Pedroso (Portugal).—Lacroix, A., 40.
Alteration, chemical, metamorphism &.—Backlund, H. G., 7.
Althœa.—Reid, C., 6.
Alticamelus.—Merriam, J. C., 15.
Alum, natural, Chile.—Bado, A. A., 2.
Alum shales, Great Britain.—Strahan, Sir. A, 14.
Alumina, hydrates of.—Fermor, L. L., 7; Wysor, D. C., 1 & 2.
——, refractory properties of.—Le Chatelier, H., 8 & 10.
——, silicates of.—Stremme, H., 1.
Aluminium, Sicily.—Gregorio, A. de, 5.
——, production of.—Phalen, W. C., 2.
Alunite.—Wherry, E. T., 9.
——, South Australia.—*See* South Australia, 4, 9, 11 & 12.
——, Utah.—Loughlin, G. F., 2.
——, Vancouver I.—Clapp, C. H., 4 & 6.
——, Western Australia.—Simpson, E. S., 5.
——, associated with pyrophyllite.—Turner, H. W., 1.
——, production of.—Schaller, W. T., 3.
Alunogen, Queensland.—Richards, H. C., 4.
Alveolina.—Checchia-Rispoli, G., 14; Douvillé, H., 22; Newton, R. B., 10; Yabe, H., 7.
Alveolites.—Mansuy, H., 1; Williams, M. Y., 11.
Alviella R. (Portugal).—Fleury, E., 2.
Alzstein (Hesse).—Popovici, O. R. S.
Amalitsky, V. P., *Obit.*—*See* Woodward, A. S., 24.
Amana (Iowa).—Prior, G. T., 4.
Amatitlan Lake (Guatemala).—Juday, C.
Amauropsis.—Dall, W. H., 2 & 5; Dickerson, R. E., 4–6; Waring, C. A.
Amazonite, Timbuktu.—Gaubert, P., 7.
Ambatoarinite.—Lacroix, A., 24.
Amber, Burmese.—Cockerell, T. D. A., 9 & 16.
——, lacustrine.—Reutter, L., 1 & 2.
——, origin of.—Black, G. F.
——, Sicilian.—Schneider, O.
Ambergate (Derbyshire).—Varney, W. D.
Amberleya.—Onetti, A.
Ambloctonus.—Matthew, W. D., 11.
Amblycoceras.—Trueman, A. E., 5.
Amblycorypha.—Cockerell, T. D. A., 4.
Amblygonite.—Backlund, H., 5; Doelter, C., 1.
Amblypus.—Lull, R. S., 3.
Amblypygus.—Checchia-Rispoli, G., 12; Clark, W. B., 3.
Amblyrhiza.—Anthony, H. E., 3.
Amblysiphonella.—Douvillé, H., 4; Hayasaka, I., 3.
Ambocœlia.—Girty, G. H., 1; Weller, S., 1.
Ambrym I. (New Hebrides).—Frater, M.; Gregory, J. W., 30; Marshall, P., 3; Mingaye, J. C. H., 1.
Ameiurus.—Eastman, C. R., 2.
Amelia (Virginia).—Lee, O. I.
America, early man in.—Balch, E. S.
——, iron ores in.—Geijer, P., 1.
——, oil & gas in.—Arnold, R., 3.
——, Orbitoidea in.—Douvillé, H., 5, 15, 24 & 28.

America, Ordovician & Silurian fossils of.—Bassler, R. S., 1.
—— (Central).—Vaughan, T. W., 11–13.
—— (—), former land connections in.—Trelease, W.
—— (—), Lakes of.—Juday, C.
—— (Equatorial), Tertiary floras of.—Berry, E. W., 16.
—— (North).—Grabau, A. W., 3, 4, 6 & 8.
—— (—), bibliography of.—Nickles, J. M., 1–3.
—— (—), coal mining in.—Dean, S., 3.
—— (—), coastal waters of.—Bigelow, H. B., 1–3.
—— (—), Cretaceous flora of.—Fritel, P. H., 4.
—— (—), Cretaceous-Tertiary period in.—Osborn, H. F., 2.
—— (—), in Devonian period.—Grabau, A. W., 2.
—— (—), Eocene mammalia.—Sinclair, W. J., 1.
—— (—), geology in.—Geijer, P., 2; Schuchert, C., 14.
—— (—), Palæozoic succession in.—Schuchert, C., 20.
—— (—), physiographic divisions.—Thayer, W. N., 2.
—— (—), Pleistocene mammalia.—Hay, O. P., 2.
—— (—), Silurian.—Schuchert, C., 4.
—— (—), structure of.—Imbeaux, E.
—— (—), Tertiary Equidæ.—Osborn, H. F., 10.
—— (—), zinc ores in.—Nason, F. L.
—— (North-Eastern).—Fairchild, H. L., 4 & 5.
—— (South), Cretaceous-Tertiary boundary in.—Windhausen, A., 1.
—— (—), fossil man in.—Sera, G. L.
—— (—), Permo-Carboniferous glacial deposits.—Coleman, A. P., 11.
—— (—), petroleum in.—Clapp, F. G., 3.
—— (—), plant beds in.—Berry, E. W., 17.
American Fork mining division (Utah).—Butler, B. S., 7.
Amethyst, colour of.—Watson, T. L., 7.
Amherst township (Quebec).—Wilson, M. E., 5 & 10.
Amia.—Gregory, W. K., 1.
Amiantis.—Clark, B. L., 1; Nomland, J. O., 6.
Amiopsis.—Woodward, A. S., 27.
Amisk Lake dist. (Saskatchewan).—Bruce, E. L., 2 & 3.
Ammeberg (Sweden).—Sluys, W.
Ammodiscus.—Chapman, F., 16 & 18; Smith, J., 1.
Ammonites, Brianza.—Fossa-Mancini, E., 1.
——, Letti I. (East Indies).—Molengraaff, G. A. F., 4.
Ammonites, Yorkshire.—Buckman, S. S., 5.
——, evolution of.—Lang, W. D., 10.
——, Jurassic.—Douvillé, R.; Nicolesco, C., 2; Schneid, T.
——, Liassic.—Fossa-Mancini, E., 2 & 5; Principi, P., 5; Zuffardi, P., 1.
——, morphology.—Spath, L. F., 2; Swinnerton, H. H., 4.
——, Triassic.—Arabu, N., 8.
Ammonites.—Grossouvre, A. de, 4.
Ammonitoceras.—Crick, G. C., 5.
Ammonium chloride, Victoria.—Hartung, E. J.
Ammoniodea, delineation of sutures in.—Coëmmè, S.; Nicolesco, C., 3.
Ammopus, Ammosaurus.—Lull, R. S., 3.
Amnicola.—Dall, W. H., 2.
Amolanas (Chile).—Endter, A.
Amphibia, Carboniferous.—Case, E. C., 4.
——, Eocene.—Loomis, F. B., 3.
——, fossil.—Moodie, R. L., 1–3, 6–8.
——, Permian.—Williston, S. W., 2 & 4.
——, Permo-Triassic.—Haughton, S. H., 1, 3 & 6.
—— structure & evolution.—Watson, D. M. S., 10.
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Amphicyon.—Sinclair, W. J., 2.
Amphidetus.—Lambert, J., 3.
Amphilichas.—Slocom, A. W.
Amphion.—Walcott, C. D., 3.
Amphiope,—Lambert, J., 3; Lovisato, D., 2.
Amphisphyra.—Cossmann, M., 1.
Amphissa.—Anderson, F. M.; Clark, B. L., 5; Dickerson, R. E., 5.
Amphistegina.—Newton, R. B., 5; Yabe, H., 7.
Amphistegina Limestone, Italy.—Samsonoff-Aruffo, C., 2.
Amphitherium.—Gregory, W. K., 5.
Amphitragulus.—Matsumoto, H., 7.
Amphiura.—Clark, W. B., 3; Waring, C. A.
Amplexopora.—Cumings, E. R., 2.
Amplexus.—Parks, W. A., 2.
Ampthill Clay zones.—Davies, A. M., 3.
Ampullina.—Cossmann, M., 1 & 5; Dall, W. H., 2 & 5; Marshall, P., 8; Martin, K.; Rollier, L., 5.
Ampullospira.—Cossmann, M., 5.
Ampwihi R. (Mozambique).—Holmes, A., 12.
Amsden Formation, Wyoming.—Branson, E. B., 5.

Amuri Limestone, N. Z.—Speight, R., 11; Thomson, J. A., 9.
Amussium.—Cossmann, M., 7.
Amygdales, Madagascar.—Lacroix, A., 34.
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Amyzon.—Eastman, C. R., 2.
Anachis.—Dall, W. H., 2.
Anacodon.—Matthew, W. D., 11.
Anadara.—Newton, R. B., 1.
Anaga (Japan).—Yabe, H., 2.
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Analcitization.—Scott, A., 6.
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——, amber.—Reutter, L., 1.
——, amphibolite.—Lacroix, A., 49.
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——, antimonates.—Moser, L.
——, Antrim minerals.—Smith, G. F. H., 1.
——, apatite.—Zambonini, F., 4.
——, apophyllite.—Hedstrœm, H. 2.
—— argentiferous pyrite.—Zambonini, F., 6.
——, arsenates.—Dittrich, M., 1.
——, Bäckströmite.—Aminoff, G., 12.
——, basaltic rocks, Arctic.—Holmes, A., 15.
——, basic rocks, Radnorshire.—Smith, H. G., 2.
——, bauxite,—Calatayud, J. R. B.
——, black earth, Morocco.—Dantín, J.
——, bornite.—Rogers, A. F., 2; Wherry, E. T., 3.
——, brines.—Sweeney, O. R.
——, Canadian fuels.—Stansfield, E., 4.
——, 'chapopote,' Mexico.—Vigier, V. von.
——, charnockites.—Washington, H. S., 5.
——, chemical, calculations of.—Panebianco, G., 2.
——, clays, Mysore.—Venkataramaiya, B. N., 2.
——, ——, New Zealand.—Jameson, A. B.
——, ——, South Australia.—*See* South Australia, 2.
——, coal, Celebes.—t'Hoen, C. W. A. P., 2.
——, ——, Illinois.—Parr, S. W., 3.
——, ——, Iowa.—Hixson, W. A.
——, ——, Java.—t'Hoen, C. W. A. P., 1.
——, ——, New South Wales.—Harper, L. F., 5.
——, ——, Russia,—Nikitinsky, A. J.
——, ——, United States.—Campbell, M. R., 2 & 5.
Analyses, coal tar oils.—Harker, G.
——, copper ores.—Ball, L. C., 16; Bard, D.C.
——, davidite.—Cooke, W. T., 1.
——, dolomite.—Reed, B. B.
——, echinoderms.—Clarke, F. W., 5 & 9.
——, euxenite.—Miller, W. G., 6.
——, felspars.—Doelter, C., 2.
——, fluorspar.—Doyle, G. R.
——, fuel, interpretation of.—Bailey, E. G.
——, gabbro.—Lacroix, A., 60.
——, gas, in rocks.—Allen, H. C.; Burrell, G. A.; Mickle, G. R.
——, glass-making sands.—Boswell, P. G. H., 18, 20 & 21.
——, glauconite.—Sahlbom, N., 2.
——, gneiss, Piedmont.—Lincio, G., 1.
——, granite, Madagascar.—Lacroix, A., 42.
——, hydrous silicates of alumina.—Stremme, H., 1.
——, igneous rocks.—Ôyu, M.; Robinson, H. H.
——, ——, ——, Cumberland.—Holmes, A., 13.
——, —— ——, Finland.—Mækinen, E., 3.
——, —— ——, Somaliland.—Manasse, E., 3.
——, —— ——, Western Australia.—Simpson, E. S., 3.
——, iron ores, Gt. Britain.—Hatch, F. H., 2.
——, —— ——, Minnesota.—Appleby, W. R.
——, —— ——, New Zealand.—Jenkinson, S. H.
——, iron oxide.—Sosman, R. B., 6.
——, iron sand, New Zealand.—Donovan, W.
——, iron stone, Nova Scotia.—Vickery, H. B.
——, lamprophyre.—Hedstrœm, H., 3.
——, lavas, leucitic.—Lacroix, A., 54.
——, ——, Vesuvian.—Lacroix, A., 50 & 53.
——, lignite, New Zealand.—Rands, H.
——, limestone, New Zealand.—Speight, R., 11.
——, ——, Norway.—Rekstad, J., 3.
——, —— & dolomite, Sweden.—Svenonius, F., 4.
——, lobster shells.—Clarke, F. W., 6.
——, manganophyllite.—Hedstrœm, H., 2.
——, marsh muds.—Hicks, W. B., 1.
——, melanotekite.—Hedstrœm, H., 2.
——, mercury ore.—Heath, R. F.
——, meteorites.—Berwerth, F., 3; Simpson, E. S., 3.
——, Mexican rocks & minerals.—Castro, C., 4; *see also* Mexico, 2.

Analyses, mineral waters.—Embrey, G., 2; Fisher, W. W.; Jensen, E. B.
——, mineralogical, of sand.—Tomlinson, C. W., 2.
——, minerals.—Doelter, C., 1 & 2.
——, ——, in the field.—McGrigor, G. D.
——, nasonite.—Aminoff, G., 3.
——, New York rocks.—Cogswell, J. A.
——, niobium-titanium minerals.—Moir, J., 1.
——, obsidianites.—Mingaye, J. C. H., 6.
——, ophites, Pyrenees.—Lacroix, A., 51.
——, orthoclase.—Dittrich, M., 2.
——, pentlandite.—Walker, T. L., 1.
——, petroleum.—Phillips, W. B., 2.
——, ——, Argentina.—Longobardi, E.
——, ——, Mexico.—Castro, C., 5; Ibarrola, A. M. de, 1–3; Morales, S. S., 1–3; Wilson, E. M., 2.
——, phonolite, Auvergne.—Lacroix, A., 46.
——, phosphorite.—Orcel, J., 1.
——, picrite.—Holmes, A., 12.
——, porcellanites.—Rieke, R.
——, prehnite.—Vander Riet, B. de St. J., 1.
——, pyrargyrite.—Castro, C., 3.
——, pyromorphite.—Amadori, M.
——, pyroxenite.—Lacroix, A., 49.
——, red marl, Salt Range, India.—Warth, H., 2.
——, rock.—Washington, H. S., 1 & 7.
——, ——, computation of.—Hance, J. H.
——, rumpfite.—Tschermak, G., 2.
——, sediments.—Udden, J. A., 1.
——, semseyite.—Smith, G. F. H., 4.
——, silica-bricks.—Rengade, E.
——, silicates.—Brun, A., 3; Duparc, L., 1.
——, —— of alumina.—Doelter, C., 2.
——, —— of rare earths.—Peters, K., 2.
——, soda salts.—Flores, T., 4.
——, soils, Dorsetshire.—Gilchrist, D. A.
——, ——, East Africa.—*See* Imperial Institute, 1.
——, ——, Fiji Is.—Wright, C. H.
——, ——, New Zealand.—Wild, L. J., 1.
——, ——, Nova Scotia.—Harlow, L. C.
——, ——, South Africa.—Juritz, C. F., 1; Perold, A. I.; Van der Riet, B. de St. J., 2.
——, spectrum, of meteorites.—Crookes, Sir W., 2.
——, ——, of Swiss rocks & minerals.—Brun, A., 6 & 7.
Analyses, tephrite, Auvergne.—Lacroix, A., 47.
——, thuringite.—Larsen, E. S., 3.
——, tin ores.—Mingaye, J. C. H., 2; *see also* Mexico, 6.
——, Trechmannite-*α*.—Solly, R. H., 2.
——, ultra basic rocks, Madagascar.—Lacroix, A., 37.
——, —— —— ——, Pyrenees.—Lacroix, A., 52.
——, United States rocks & minerals.—Clarke, F. W., 3.
——, uraniferous minerals, Madagascar.—Waites, T. P.
——, vaugnerite.—Lacroix, A., 45.
——, water, Antigua.—Tempany, H. A., 1.
——, ——, Arkansas.—Stephenson, L. W., 5.
——, ——, Birkenhead.—*See* Birkenhead.
——, ——, Bokhara.—Tichanoff, M.
——, ——, California.—Mendenhall, W. C.
——, ——, Georgia.—Stephenson, L. W., 4.
——, ——, Gloucestershire.—Richardson, L., 2.
——, ——, Italy (N.).—Menozzi, A.
——, ——, Mexican.—*See* Mexico, 2.
——, ——, Oregon & Washington.—Van Winkle, W., 1 & 2.
——, ——, Philippine Is.—Heise, G. W., 1 & 2.
——, ——, South Australia.—Chapman, W. S.
——, ——, South Carolina.—Stephenson, L. W., 1.
——, ——, United States.—Clarke, F. W., 2.
——, ——, Upsala.—Svenonius, F., 5.
——, ——, Western Australia.—Simpson, E. S., 3.
——, ——, chloride, in oil fields.—Washburne, C. W., 2.
——, ——, from sulphide ores.—Hodge, E. T.
——, ——, in the field.—Heise, G. W., 10.
——, ——, interpretation of.—Rogers, G. S., 3.
Anachytes.—Clark, W. B., 3.
Anaptomorphus.—Matthew, W. D., 14.
Anatase.—Bonde, W. von; Werdmueller, O.
——, structure of.—Vegard, L., 2.
Anathyris.—Tolmatcheff, I. P.
Anatina.—Fucini, A.
Anatis.—Wickham, H. F., 3.
Anatolia (Asia Minor).—Penzer, N. M.
Anchastus.—Wickham, H. F., 1.
Anchiceratops.—Brown, B., 1.
Anchilophus.—Depéret, C., 5.
Anchisauripus, *Anchisaurus.*—Lull, R. S., 3.

Anchitherium.—Dupuy de Lome, E., 1; Osborn, H. F., 10.
——, migrations of.—Joleaud, L., 6.
Anchomenus.—Mjœberg, E.
Anchomomys.—Stehlin, H. G., 2.
Anchura.—Cossmann, M., 5.
Ancilla.—Clark, B. L., 5; Cossmann, M., 1; Dall, W. H., 2; Dickerson, R. E., 4; Marshall, P., 13; Martin, K.
Ancillaria.—Nœrregaard, E. M., 1.
Ancistrodon.—Priem, F., 6.
Ancos coalfield (Peru).—Jimenez, J. V.
Ancylus.—Trechmann, C. T., 6.
Ancylus beds, Sweden.—Munthe, H., 7; Post, L. von, 3.
Ancyropus.—Lull, R. S., 3.
Andalusia (Spain).—Duparc, L., 2; Gentil, L., 10–15.
Andalusite.—Doelter, C., 2; Flink, G., 4; Rastall, R. H., 1.
——, in Cretaceous & Eocene sands.—Davies, G. M., 1.
Anderson, R. J., *Obit.*—*See* Jackson, B. D.
Anderson, W., *Obit.*—*See* Etheridge, R. *fil.*, 2; Knott, C. G., 1; & Woodward, A. S., 8.
Anderson's Creek (Tasmania).—Twelvetrees, W. H., 8.
Andes, Bolivian.—Berry, E. W., 14.
——, gravity deflections in the.—Close, Sir C. F.; Oldham, R. D., 2.
Andesite, Fifeshire.—Balsillie, D., 1.
——, Japan.—Suginome, B.
——, Sardinia.—Serra, A., 1.
Andreasberg (Harz Mts.).—Viola, C., 3.
Andrewsite.—Doelter, C., 1.
Androgynoceras.—Trueman, A. E., 5.
Andromeda.—Baumberger, E., 2.
Anemone.—Reid, C., 6.
Aneurhynchus.—Cockerell, T. D. A., 14.
Ange R. (Jura).—Bourgeat, l'Abbé, 6.
Ångermanland (Sweden).—Sandler, K.
Angiosperms, antiquity of.—Sinnott, E. W., 1.
——, Cretaceous.—Stopes, M. C., 4.
Angistorhinus.—Mehl, M. G., 1.
Anglesea (Victoria).—Dunn, E. J., 5.
Anglesite, Idaho.—Shannon, E. V., 5.
Angola (W. Africa).—Holmes, A., 3 & 9; Newton, R. B., 9; Romanes, M. F.; Sousa, P. de, 5.
Anhydrite, Gt. Britain.—Sherlock, R. L., 10.
——, Stromboli.—Ponte, G., 3.
Animals, rock-boring.—Barrows, A. L.
Anisocardia.—Fucini, A.; Krenkel, E; Trechmann, C. T., 2.
Ankaramite, Madagascar.—Lacroix, A., 37.
Ankaratrite, Haute-Loire.—Lacroix, A., 59.
Ankaratrite, Madagascar.—Lacroix, A., 39.
Annabergite.—Doelter, C., 1.
Annam (Indo-China).—Deprat, J., 16.
Annan Series, Dumfriesshire.—Horne, J., 8.
Annapolis County (Nova Scotia).—Hayes, A. O., 3.
Annecy, Lake of (Savoy).—Moret, L.
'Annot, arenarie di' (Western Alps).—Franchi, S., 3.
Annularia.—Kidston, R., 4; Stopes, M. C., 1.
Anodonta.—Nomland, J. O., 5.
Anodontophora.—Mansuy, H., 1; Trechmann, C. T., 2.
Anodontopsis.—Mansuy, H., 1; Williams, H. S., 2.
Anomalina.—Chapman, F., 13 & 18; Udden, J. A., 3.
Anomalocardia.—Dall, W. H., 2.
Anomalon.—Cockerell, T. D. A., 22.
Anomia.—Clark, B. L., 5; Cossmann, M., 7; Dall, W. H., 2; Fucini, A.; Marshall, P., 13.
Anomocare.—Mansuy, H., 3.
Anomodontia.—Broom, R., 7 & 9.
——, Permo-Triassic.—Haughton, S. H., 1 & 3.
Anomœodus.—Priem, F., 3, 6 & 7.
Anomœpus.—Lull, R. S., 3.
Anomozamites.—Halle, T. G., 3; Wieland, G. R., 1.
Anona.—Matson, G. C., 3.
Anoplophora.—Mansuy, H., 1.
Anorthaster.—Schuchert, C., 2.
Anorthite, Japan.—Kôzu, S., 2.
Anorthite-forsterite-silica system.—Andersen, O., 2.
Anorthosite, Adirondack Mts.—Cushing, H. P., 3 & 4; Miller, W. J., 5.
——, origin of.—Bowen, N. L., 5.
Anser.—Munthe, H., 5.
Ant hill fossils.—Lull, R. S., 5.
Antarctica.—Bæckstrœm, O; Dolomieu, D. de, 3; Mawson, Sir D., 4; Taylor, G., 1.
——, ice-barrier in.—Scott, Sir R. F.
——, ice-cap in.—Mawson, Sir D., 2 & 3.
Antechinomys.—Gregory, W. K., 5.
Antedon.—Bather, F. A., 14; Chapman, F., 16; Nielsen, K. B., 1.
Anteopolis (Egypt).—Parona, C. F., 11.
Antholithus.—Antevs, E., 3.
Anthomya.—Newton, R. B., 9.
Anthophyllite.—Flink, G., 1; Schirmeisen, K.
Anthosiderite, Brazil.—Lacroix, A., 7.
Anthozoa, Carboniferous.—Carruthers, R. G., 4; Gregory, J. W., 32; Smith, S., 1 & 2.
——, Cretaceous.—Felix, J.; Nielsen, K. B., 4 & 5; Stephenson, L. W., 3.
——, ——, & Tertiary.—Nomland, J. O., 1 & 4.

Anthozoa, Eocene.—Filliozat, M., 2; Gregory, J. W., 39.

——, Jurassic.—Jourdy, E., 9.

——, Tertiary.—Checchia-Rispoli, G., 3; Park, J., 5; Vaughan, T. W., 12.

——, development of mesenteries in.—Brown, T. C., 2.

——, rugose, morphology of.—Yakovlev, N. N.

Anthracite, Pennsylvania.—Crankshaw, H. M.

——, Rhode Island, U.S.A.—Ashley, G. H., 1.

——, South Wales.—Strahan, Sir A., 11.

——, origin of.—Crivelli, E.

Anthracohyus, *Anthracokeryx*.—Pilgrim, G. E., 9.

Anthracolithic System.—*See* Permo-Carboniferous.

Anthracomya.—Bolton, H., 1; Pruvost, P., 2; Trechmann, C. T., 6; Woodward, H., 6.

Anthracomya beds, Belgium.—Cambier, R.

Anthraconeilo.—Girty, G. H., 1.

Anthracotherium.—Pilgrim, G. E., 7 & 9; Vasseur, G.

Anthrophorites.—Meunier, F.

Anthropithecus.—Hrdlička, A., 1.

Anthropoidea, evolution of the.—Pilgrim, G. E., 5.

——, extinct & recent.—Gregory, W. K., 5.

Anticlinal ring-structure, Mexican oil-fields.—Garfias, V. R., 2.

——, theory, of oil accumulation.—Hager, D., 2.

—— zone, Asturias.—Termier, P., 8.

Anticlines, Băicoi, Roumania.—Botez, G., 4.

——, Basses-Alpes.—Guébhard, A., 12; Zurcher, P., 5.

——, Bondi, N.S.W.—Hedley, C.

——, Illinois.—Kay, F. H., 3.

——, I. of Islay.—Bailey, E. B., 1.

——, Kaw Valley, Kansas.—Warfel, E. C.

——, Ohio.—Bonine, C. A.

——, Oklahoma.—Fath, A. E., 2; Wegemann, C. H., 3.

——, Wyoming.—Moody, C. L., 3.

Anticosti I. (Canada).—Twenhofel, W. H., 1.

Antigona.—Clark, B. L., 5; Dall, W. H., 2.

Antigonish dist. (Nova Scotia).—Williams, M. Y., 1.

Antigua (W. Indies), soils & water-supply.—Tempany, H. A., 1 & 2; Vaughan, T. W., 4.

Antiguastrea.—Vaughan, T. W., 12.

Antilles (W. Indies).—Dall, W. H., 6; Jones, W. F., 3; Matthew, W. D., 10; Trelease, W.

Antilocapra.—Hay, O. P., 1.

Antimonates, analysis of.—Moser, L.

Antimonite.—Comucci, P., 5; Quercigh, E., 1.

Antimony deposits, Alaska.—Brooks, A. H., 2.

—— ——, China.—Wheler, A. S., 1.

—— ——, Queensland.—Saint-Smith, E. C., 5.

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——, production of.—Hess, F. L., 2.

Antipodes, law of the.—Belot, E., 6.

Antipus.—Lull, R. S., 3.

Antispirifer.—Williams, H. S., 2.

Antrim Co. (Ireland).—Griffith, R.; Smith, G. F. H., 1.

Antwerp (Belgium).—Depéret, C., 4; Leriche, M., 2.

Anyox dist. (B.C.).—Drysdale, C. W., 7.

Anzasca Valley (Piedmont).—Porro, F., 2.

Anzin (Nord).—Gosselet, J., 5.

Apatichnus.—Lull, R. S., 3.

Apatite, Lappland.—Grijer, P., 10.

——, S. Australia.—*See* SOUTH AUSTRALIA, 9.

——, Sweden.—Grœnwall, K. A., 4; Koechlin, R., 2.

——, composition of.—Zambonini, F., 4.

——, remarkable crystal of.—Ford, W. E., 4.

Apatosaurus.—Mook, C. C., 5.

Apeibopsis.—Baumberger, E., 2.

Apennines, Italy.—Checchia-Rispoli, G., 6 & 15; Gignoux, M., 1; Parona, C. F., 13; Segré, C., 2; Taramelli, T., 7.

——, Central.—Caterini, F., 2.

——, Ligurian.—Anelli, M., 2; Franchi, S., 1–3 & 5; Preller, C. S. du R., 9–11.

——, Lombardy.—Brusoni, A.; Pelizzola, C., 1.

——, Vogherese.—Patrini, P., 3.

——, structure of the.—Rovereto, G., 2.

Aphanaia.—Trechmann, C. T., 3.

Aphaneramma.—Wiman, C., 1.

Aphanisma.—Reid, C., 6.

Aphelops.—Merriam, J. C., 7.

Aphralysia.—Garwood, E. J., 1.

Aphrosiderite.—Larsen, E. S., 3.

Aphyllites.—Fuchs, A.

Aphyllopteris.—Halle, T. G., 5; Kolderup, C. F., 6; Nathorst, A. G., 2.

Apical system, of *Holectypus*.—Hawkins, H. L., 4.

Aplite, New York.—Miller, W. J., 7.

——, Piedmont.—Lincio, G., 1.

——, Somaliland.—Manasse, E., 3.

——, corundum-bearing.—Du Toit, A. L., 9.

Aplodontia.—Merriam, J. C., 7.

Aplustrum.—Trechmann, C. T., 5.

Apodemus.—Hinton, M. A. C., 1.

Apophyllite.—Flink, G., 2 & 4; Hedstrœm, H., 2.
——, S. Africa.—Van der Lingen, J. S.
Aporrhaidæ, Cretaceous.—Lecointre, G., 2.
Aporrhais.—Greco, B., 3; Harmer, F. W., 2; Ravn, J. P. J., 5; Spitz, A., 1; Trechmann, C. T., 5.
Appalachian Mts.—Clarke, J. M., 4; Fuller, M. L., 1; Lebling, C.; Ulrich, E. O., 4.
—— oilfields.—Reeves, F.; Shaw, E. W., 9.
—— —— ——, brines in.—Richardson, G. B., 3.
—— peneplains.—Shaw, E. W., 12.
—— States, barite deposits in.—Watson, T. L., 6.
—— ——, Southern.—Watkins, J. H.
Appendages, of trilobites.—Calman, W. T.; Walcott, C. D., 9.
Appian Way (Italy).—Palagi, A., 1.
Appley Bridge (Lancashire).—Jenkins, W. C.
Apractocleidus.—Smellie, W. R., 1 & 5.
Apricardia.—Douvillé, H., 3.
Aprotodon.—Cooper, C. F.
Aptian, Britain, flora.—Stopes, M. C., 2 & 4.
——, France (S.E.).—Kilian, W., 8.
——, Kent.—Crick, G. C., 5.
——, Majorca.—Fallot, P., 1.
Aptiana.—Stopes, M. C., 2.
Aptychus.—Girty, G. H., 2.
Aquamarine mines, Baltistan.—Middlemiss, C. S., 4.
Aquila.—Shufeldt, R. W., 2.
Aquila degli Abruzzi (Italy).—Cassetti, M., 1.
Aquilano (Italy).—Zuffardi, P., 1.
Aquitaine basin (France).—Cossmann, M., 7 & 8; Douvillé, H., 26.
Aquitanian, Algeria. Dalloni, M., 8.
——, France (S.W.).—Canu, F., 3.
——, Provence.—Repelin, J., 12.
Aquitanian Gulf, tectonics of the.—Douvillé, H., 25.
Arabia.—Blanckenhorn, M.; Greco, B., 1.
Arabian desert.—Barthoux, J., 1.
Arachnichnus.—Lull, R. S., 3.
Arachniophyllum.—Smyth, L. B.
Arachnocrinus.—Stauffer, C. R., 5.
Aræoscelis.—Williston, S. W., 7.
Aragonite.—Barea, P. C.; Quercigh, E., 3.
——, solubility of, in sea water.—McClendon, J. F.
Aralia.—Fritel, P. H., 4; Kryshtofovich, A., 2; Reid, C., 6.
Araliæphyllum.—Baumberger, E., 2; Fritel, P. H., 4.
Aralo-Caspian fauna, Arctic elements in.—Hœgbom, A. G., 7.
Araucaria.—Fucini, A.; Reid, C., 6.
Araucarioxylon.—Wieland, G. R., 1.
Araucarites.—Walkom, A. B., 3–5 & 7.
Arauco Prov. (Chile).—Brueggen, J., 1.
Arbacina.—Checchia-Rispoli, G., 10.
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Arbouin copper mines, Queensland.—Ball, L. C., 11.
Arc Valley (Savoy).—Kilian, W., 17 & 18.
Arca.—Clark, B. L., 1 & 5; Cossmann, M., 5 & 8; Dall, W. H., 2; Dickerson, R. E., 5, 6 & 9; Fourtau, R., 4; Greco, B., 4; Mansfield, W. C.; Martin, K.; Ravn, J. P. J., 5 & 6; Spitz, A., 1.
Arcestes.—Trechmann, C. T., 2.
Archæan, Arizona.—Noble, L. F., 2.
——, Canada.—Horne, J., 2.
——, Finland.—Mækinen, E., 2.
——, Southern India.—Smeeth, W. F., 2, 7 & 9.
—— Sweden.—Geijer, P., 3; Holmquist, P. J., 2; Lindroth, G. T., 1.
Archœocidaris.—Dunlop, R., 2; Mansuy, H., 2.
Archœocryptolaria.—Chapman, F., 10 & 35.
Archæocyathidæ, Cambrian.—Hernandez-Pacheco, E., 4.
Archœocyathus.—Walcott, C. D., 8.
Archœohippus.—Merriam, J. C., 15; Osborn, H. F., 10.
Archœolafoëa.—Chapman, F., 10.
Archœolagus.—Dice, L. R.
Archœolithothamnium.—Howe, M. A.
Archœopitys.—Scott, D. H., 9.
Archœopteris.—Johnson, T.; Matthew, G. F., 3.
Archœopteryx.—Petronievics, B., 5.
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Archœozonites.—Roman, F., 2.
Archepsychops.—Tillyard, R. J., 6.
Archiacia.—Stefanini, G., 4.
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Architectonica.—Dickerson, R. E., 6; Marshall, P., 8.
Archohelia.—Vaughan, T. W., 12.
Arcis-le-Ponsard (Marne).—Charpiat, R., 6 & 12.
Arcomya.—Fucini, A.
Arcopagia.—Cossmann, M., 8; Newton, R. B., 1.
Arcoperna.—Chapman, F., 16; Cossmann, M., 1 & 7; Dall, W. H., 5.
Arctic coast, Canada.—O'Neill, J. J., 1 & 2.
Arctic elements, in Aralo-Caspian fauna.—Hœgbom, A. G., 7.
Arctic flora.—Fritel, P. H., 2.
—— ——, Cambridge.—Marr, J. E., 6.
—— ——, Scania.—Gertz, O., 2.
Arctic Ocean.—Ahlmann, H. W., 5; Holtedahl, O., 8.

Arctic Regions, basaltic rocks from.—Holmes, A., 15.
Arctodendron.—Nathorst, A. G., 8.
Arctops.—Watson, D. M. S., 3.
Arctostylops.—Matthew, W. D., 14.
Ardèche (France).—Gonnard, F., 1.
Ardennes.—Anten, J., 5.
Ardisia.—Reid, C., 6.
Arditurri (Spain).—Gascue, F., 1.
Ardlethan tinfield (N.S.W.).—Godfrey, J. R.
Ardrossan (S. Australia).—Howchin, W., 7.
Arenœus.—Rathbun, M. J., 4.
Arenas del Rey (Spain).—Alvarado, A. de.
Arendal-Grimstad area (Norway).—Suleng, H.
Arequipite.—Doelter, C., 1.
Argelès (Pyrenees).—Douvillé, H., 29.
Argenteuil County (Quebec).—Gauthier, H., 1; Wilson, M. E., 4 & 5.
Argentiferous galena, occurrence of silver in.—Nissen, A. E.
Argentina (S. Am.).—Ameghino, C., 1 & 2; Bodenbender, G.; Gerth, H., 1; Hobson, B., 2; Meigen, W.; Principi, P., 3 & 4.
——, minerals.—Sharp, R. C.; Perrier, C., 2; Vignau, P. T.
——, oilfields.—Longobardi, E.
—— (Central).—Hausen, H., 3.
Argentine Cordillera.—Windhausen, A., 2.
Argentite.—Grill, E., 1.
Argillite, altered, N.Z.—Thomson, J. A., 13.
Argilloecia.—Chapman, F., 3 & 16.
Argobuccinum.—Anderson, F. M.
Argoides.—Lull, R. S., 3.
Argovian, French Jura.—Ronchadzé, J.
Arica (Chile).—Ossa, I. D., 3.
Arid regions, physiography of.—Holland, Sir T. H., 3.
—— ——, deposition in.—Keyes, C. R., 5–7.
Arietites.—Buckman, S. S., 3; Schmidt, E. W.
Arisaig dist. (Nova Scotia).—McLearn, F. H., 6; Williams, M. Y., 1.
Aristolochia.—Knowlton, F. H., 4.
Aristopsyche.—Tillyard, R. J., 6.
Arizona (U.S.A.).—Gregory, H. E., 1, 4 & 7; Noble, L. F., 1 & 2; Schuchert, C., 12 & 13; Ransome, F. L., 1–3.
——, copper-mining in.—Blackner, L. A.; Joralemon, I. B.; Scotland, P. B.; Tovote, W.
——, igneous rocks.—Emery, W. B., 1.
——, Mesozoic freshwater beds in.—Robinson, W. I., 1.
——, metals.—Heikes, V. C., 1.
——, ore deposits.—Irving, J.; Jones, E. L., 1 & 2; Schrader, F. C., 3–5; Reber, L. E., *fil.*
Arizona, Triassic reptilia.—Mehl, M. G., 3.
——, water-supply.—Meinzer, O. E. 6.
Arkansas (U.S.A.).—Girty, G. H., 2–4; Mather, K. F., 1.
——, bauxite deposits.—Mead, W. J.; Wysor, D. C., 1.
——, gasfield.—Smith, C. D., 1.
——, mineral springs.—Siebenthal, C. E., 1.
——, water-supply.—Stephenson, L. W., 5.
Arkose, the term.—Salomon, W., 2.
Arkose deposits, classification of.—Barton, D. C., 3.
Armagnac (France).—Dollfut, G. F., 5.
Armature, basal, of *Conulus.*—Hawkins, H. L., 7.
Armenia.—Bonnet, P., 2; Ginsberg, A. S.; Stoyanow, A.
——, volcanoes in.—Oswald, F.
Arnao (Asturias).—Termier, P., 6 & 7.
Arnheim Land (Australia).—Gray, G. J., 1.
Arnioceras.—Buckman, S. S., 3; Greco, B., 1.
Arnprior dist. (Ontario).—Wilson, M. E., 9.
Arran, I. of.—Gregory, J. W., 18; Scott, A., 4, 5 & 8; Smith, J., 2.
Arrhoges.—Cossmann, M., 1; Lecointre, G., 2.
Arrowhead dist. (B.C.).—Emmens, N. W., 3.
Arsenates, analysis of.—Dittrich, M., 1.
Arsenic.—Doelter, C., 1.
—— mining, Queensland.—Ball, L. C., 17; Dunstan, B., 3; Jensen, H. I., 6.
——, in mineral waters.—Bado, A. A., 1.
——, native, Italy.—Lincio, G., 2.
——, ——, Japan.—Ichikawa, S., 2.
——, production of.—Hess, F. L., 2.
Arseniopleite, Arseniosiderite.—Doelter, C., 1.
Arseno-bismite.—Means, A. H., 2.
Arsenolamprite, Arsenolite.—Doelter, C., 1.
Arsikere Taluk (Mysore).—Jayaram, B., 3.
Artesian basin, Australia.—Chapman, W. S.; Du Toit, A. L., 5; Jack, R. Lockhart, 1; Richert, J. G., 1; *see also* New South Wales, 5.
—— springs, Italy.—Crema, C., 3.
—— wells, Alberta.—Dowling, D. B., 9 & 12.
—— ——, Belgium.—Halet, F., 1.
—— ——, Libya.—King, W. J. H., 3.
—— ——, London.—Tabberner, J. L.
—— ——, Manitoba.—Tyrell, J. B., 1.
—— ——, Mexico.—Paredes, T., 2.

Artesian wells, Montreal, Canada.—Cumming., C. L.
—— ——, New Zealand.—Hilgendorf, F. W.; Holmes, R. W.; Symes, L. P.
—— ——, Northern Territory, Austalia.—Winters, R. J.
—— ——, Philippine Is.—Pratt, W. E., 1.
—— ——, Piacenza, Italy,—Patrini, P., 4.
—— ——, Sardinia.—Pullé, G.
—— ——, Tripoli.—Parona, C. F., 2.
—— ——, pressure in.—Gregory, J. W., 1.
—— ——, pumping methods in.—Kilpatrick, J. D.
Arthrodiran fish remains.—Lowe, H. J., 5.
Arthropoda, Carboniferous.—Woodward, H., 6.
——, Miocene.—Cockerell, T. D. A., 16.
——, Palæozoic.—Schuchert, C., 9
Arthrostigma.—Halle, T. G., 5.
Arthrotaxis, *Arthrotaxites.*—Halle, T. G., 1.
Arthur's Seat (Edinburgh).—Campbell, R., 2.
Artiodactyla, Eocene.—Sinclair, W. J., 1.
——, U. Tertiary.—Pavlow, M., 1.
Arve R. (Savoy).—Boissier, R.
Asama-Yama, volcano (Japan).—Deprat, J., 5; Omori, F., 3.
Asaphiscus.—Walcott, C. D., 5.
Asaphus.—Reed, F. R. C., 3.
Asarum.—Reid, C., 6.
Asbestiform minerals, genesis of.—Taber, S., 2, 3 & 7.
Asbestos, Georgia.—Hopkins, O. B., 1.
——, Quebec.—Dresser, J. A., 1.
——, S. Africa.—Hall, A. L., 7.
——, S. Australia.—*See* SOUTH AUSTRALIA, 13.
——, Tasmania.—Twelvetrees, W. H., 8.
——, Transvaal.—Hall, A. L., 5.
——, W. Australia.—*See* WESTERN AUSTRALIA, 12.
——, occurrence & uses of.—Flores, T., 2.
——, production of.—Diller, J. S., 4.
Asbolan, Rhodesia.—Zealley, A. E. V., 4.
Ascoceras.—Parks, W. A., 2.
Ascodictyon.—Macnair, P., 8.
Åsens (Sweden).—Loostrœm, R., 2.
Ash, determination of, in coal.—Lesher, C. E., 2.
——, volcanic.—*See* Volcanic ash.
Ash-yield, of coal, calorific values &.—Drakeley, T. J., 3.
Ashanti (W. Africa), gold-mining in.—Campbell, J. M., 1; Feldtmann, W. R., 2; Johnston, H. I.
—— (—), tin ore deposits.—MacDonald, D. J.
Ashcroft mining division (B.C.).—Brewer, W. M., 9.
Ashgillian series, Lake District.—Marr, J. E., 1.
Ashprington (Devonshire).—Lowe, I, H.
Ashtead (Surrey).—Young, G. W., 4.
Ashuapmuchuan R. (Quebec).—Cooke, H. C., 4.
Asia (Central).—Filippi, F. de, 1–3; Leuchs, K.; Oldham, R. D., 8; Stefanini, G., 3.
—— (Eastern).—Brown, J. C., 1; Matsumoto, H., 8; *see also* China, Tonkin, &c.
Asia Minor.—Edwards, G. M.; *see also* Anatolia, Armenia, &c.
Aso-San, volcano (Japan).—Deprat, J., 5.
Asphalt, Argentina.—Vignau, P. T.
——, Sicily.—Gregorio, A. de, 3.
——, W. Australia.—Woodward, H. P., 5.
——, occurrence & uses of.—Danby, A.
Aspideretes.—Gilmore, C. W., 6.
Aspidium.—Baumberger, E., 2.
Aspidoceras.—Schneid, T.; Swinnerton, H. H., 4.
Aspidopholas.—Morgan, J. de, 1; Newton, R. B., 1.
Aspidorhynchus.—Eastman, C. R., 2; Woodward, A. S., 27.
Aspidura.—Clark, W. B., 3.
Asplenites.—Halle, T. G., 1.
Asplenium.—Smith, W. S., 2.
Asprières (Aveyron).—Mouret, G., 2.
Assam (India).—Brown, J. C., 1; Das-Gupta, H. C., 1; Pinfold, E. S., 2.
—— (—), petroleum industry in.—Jack, H. S. M.
Assaying, corundum.—Hutchinson, W. H.
——, gold & silver.—Hogenraad, G. B.; Hall, E. J.
——, gold-bearing cyanide solutions.—Levy, D. M.
——, tin ores.—Hutchin, H. W., 1 & 2; Matheson, A. M.; Wraight, E. A.
Assilina.—Checchia-Rispoli, G., 14.
Assiminea.—Dall, W. H., 2.
Assynt dist. (Sutherland).—Horne, J., 3.
Astandes.—Wade, B., 3.
Astarte.—Bell, A., 5 & 9; Cossmann, M., 5; Dickerson, R. E., 9; Krenkel, E.; Mansfield, W. C.; Mansuy, H., 1; Newton, R. B., 1; Onetti, A.; Spitz, A., 1.
Astartella.—Girty, G. H., 1; Mansuy, H., 1.
Asteracanthus.—Woodward, A. S., 13.
Asterias.—Clark, W. B., 3.
Asterodiscus.—Douvillé, H., 8.
Asterolepis.—Chapman, F., 15; Mansuy, H., 4.

Asterolepsis.—Williams, H. S., 2.
Asterophyllites.—Stopes, M. C., 1.
Asterosmilia.—Vaughan, T. W., 12.
Asterozoa, morphology.—Bather, F. A., 4.
——, Palæozoic.—Schuchert, C., 2; Spencer, W. K., 1 & 2.
Asthenognathus.—Broom, R., 5.
Asthenosphere.—Barrell, J., 5.
Asthenotoma.—Martin, K.
Astor Pass (Nevada).—Merriam, J. C., 3.
Astoria Series, California.—Clark, B. L., 3.
Astralium.—Bongo, F., 1; Cerulli-Irelli, S., 2; Clark, B. L., 1; Cossmann, M., 5; Nomland, J. O., 3; Rollier, L., 5.
Astrangia.—Nomland, J. O., 1 & 4.
Astraspis.—Eastman, C. R., 2.
Astreopora.—Nomland, J. O., 4; Vaughan, T. W., 12.
Astrocœnia.—Filliozat, M., 2; Vaughan, T. W., 12.
Astrodapsis.—Anderson, F. M.; Clark, B. L., 1; Clark, W. B. 3; Kew, W. S. W., 1.
Astrolabe mineral field, Papua.—*See* Australia, 8.
Astropecten.—Clark, W. B., 3.
Asturias (Spain).—Adaro, L. de; Termier, P., 6–9.
Astyris.—Dall, W. H., 2.
Atactopora.—Cumings, E. R., 2.
Atarba'—Cockerell, T. D. A., 14.
Atelecrinus.—Nielsen, K. B., 1.
Atelestite.—Doelter, C., 1.
Athabaska Lake (Canada).—Alcock, F. J.; Camsell, C., 2 & 5.
—— river-section, Alberta.—McLearn, F. H., 5.
Athapapuskow Lake (Canada).—Bruce, E. L., 3 & 9.
Athens Shale, Virginia.—Powell, S. L.
Athleta.—Cossmann, M., 1.
Athous.—Wickham, H. F., 1.
Athrodon.—Woodward, A. S., 13.
Athyris.—Garwood, E. J., 1; Kegel, W.; Mansuy, H., 1 & 2; Tolmatcheff, I. P.; Weller, S., 1.
Atikokania.—Abbott, G., 1; Walcott, C. D., 1.
Atitlan Lake (Guatemala).—Juday, C.
Atlanta.—Ravn, J. P. J., 5.
Atlantic basin, permanency of the.—Termier, P., 4; Schuchert, C., 11.
Atlantic Coast basins, U.S.A., water-supply.—Babb, C. C.; Covert, C. C.
Atlantic gold district (Wyoming).—Spencer, A. C.
Atlantic Ocean, former connection of, with Pacific.—Dickerson, R. E., 7.
—— ——, temperature, specific gravity & salinity of.—Bruce, W. S.
—— —— (North).—Hawkes, L., 2; Holtedahl, O., 8; Murray, Sir J.
Atlantic Plain, U.S.A.—Clark, W. B., 1 & 2.
Atlantis.—Navarro, L. F., 6; Schuchert, C., 11; Termier, P., 4.
Atlas Mts. (Algeria).—Blayac, J., 3; Brives, A., 2; Dalloni, M., 7 & 9.
—— —— (Morocco).—Gentil, L., 1, 2 & 5.
Atlin mining division (B.C.).—Brewer, W. M., 1; Young, G. A., 1.
Atmosphere, composition of the.—Krogh, A.
——, of Mesozoic epoch.—Harlé, E., 3.
Atolls, Fiji Is.—Davis, W. M., 8.
——, formation & structure of.—Davis, W. M., 10; Mayor, A. G., 2 & 3.
Atopite.—Doelter, C., 1.
Atractodon.—Harmer, F. W., 2.
Atrina.—Cossmann, M., 7.
Atriplex.—Reid, C., 6.
Atrypa.—Fuchs, A.; Gortani, M., 3; Hede, J. E., 2; Mansuy, H., 1 & 4; Savage, T. E., 4; Weller, S., 1; Williams, M. Y., 11.
Atterberg, A., *Obit.*—*See* Johansson, S., 2.
Attunga dist. (N.S.W.).—Benson, W. N., 5.
Aturia.—Chapman, F., 4; Clark, B. L., 5; Newton, R. B., 13.
Aubrig Mt. (Switzerland).—Ahrens, H.; Heim, Arn., 4.
Auburn (Maine).—Ford, W. E.
Auburn Falls (Queensland).—Saint-Smith, E. C., 2.
Auca-Mahuida (Argentina).—Vignau, P. T.
Aucellina.—Withers, T. H., 3.
Auchenia.—Troxell, E. L., 1.
Auckland (N.Z.).—Bartrum, J. A., 3; Jameson, A. B.
Augite, Stromboli.—Kôzu, S., 7.
——, aluminous, composition of.—Tschermak, G., 1.
——, titaniferous.—Warren, C. H., 4.
Augite-diorite, correlation of, with dolerite.—Sen Gupta, K. K., 2.
Aulacites.—Cockerell, T. D. A., 19.
Aulacoceras.—Trechmann, C. T., 2.
Aulacosphinctes.—Steiger, P.
Aulacothyris.—Mansuy, H., 1.
Auld Wives' Lifts, The (Lanarkshire).—Gregory, J. W., 26; Neilson, J., 3.
Aulina.—Smith, S., 2.
Aulocopella.—Parks, W. A., 2.
Aulophyllum.—Garwood, E. J., 1.
Aulopora.—Mansuy, H., 1.
Aulosteges.—Diener, C.; Etheridge, R., *fil.*, 1.
Auricula.—Morgan, J. de, 3.
Auriculidæ, Miocene.—Morgan, J. de, 3.
Auriferous cyanide solutions, assay of.—Levy, D. M.
—— —— ——, carbon in.—Feldtmann, W. R., 1.

Auriferous Series, Mysore.—Sampat Iyengar, P., 1.
—— zone, Peru.—Ulloa, L.
——. *See also* Gold.
Aurignacian, Suffolk.—Moir, J. R., 1.
Aurochs, in Roumania.—Botzat, E.
Australasia, structural geology of.—Andrews, E. C., 1 & 9.
Australaster.—Schuchert, C., 2.
Australia.—David, T. W. E.; Taylor, G., 2 & 3.
——, artesian basin. — Chapman, W. S.; Du Toit, A. L., 5; Jack, R. Lockhart, 1; Richert, J. G., 1; *see also* New South Wales, 5.
——, bibliography.—Anderson, C., 3.
——, diatomite from—*See* Imperial Institute, 9.
——, flowering plants of.—Andrews, E. C., 8.
——, great barrier reef.—Davis, W. M., 9.
——, magnesite & dolomite in.—Morgan, P. G., 4.
——, marine Tertiary beds.—Gregory, J. W., 12; Newton, R. B., 4.
——, Mesozoic & Palæozoic floras.—Benson, W. N., 10; Chapman, F., 33 & 34.
——, Permian & Carboniferous in.—Gregory, J. W., 35.
——, post-Jurassic geography. — Andrews, E. C., 4.
——, supposed worm-borings in.—Bather, F. A., 10.
——, tin lode mining in.—Herman, H., 1.
—— (Central).—Chewings, C.
—— (Eastern).—Cambage, R. H.
—— (Northern Territory). *See* Northern Territory, S. Australia.
—— (South-Eastern), Tertiary sequence in.—Chapman, F., 11.
Australites.—Dunn, E. J., 2; Moore, E. S., 2; Skeats, E. W., 2 & 3; Vogt, T., 2.
Austria, southern frontiers of.—Freshfield, D. W., 1.
Austroblattula.—Tillyard, R. J., 7.
Austrolestidion, *Austromylacrites.*—Tillyard, R. J., 1.
Auteuil (France).—Dollot, A., 3.
Autoclave, convenient form of.—Morey, G. W., 1.
Autunian, Sardinia.—Novarese, V., 4.
Autunite.—Doelter, C., 1; Hallimond, A. F., 1; Mingaye, J. C. H., 1.
Auvergne (France).—Glangeaud, P., 2–14; Lacroix, A., 46 & 47; Sabatini, V., 1.
Avalanches, cone talus due to.—Jaccard, F.
Avebury (Wiltshire).—Gray, H. St. G.; Kendall, H. G. O., 4.
Aveiro dist. (Portugal). — Souza-Brandão, V., 2–4.
Avellana.—Marshall, P., 6.
Aventurine felspar.—Andersen, O., 1 & 3.
Avea, Cretaceous & Tertiary.—Shufeldt, R. W., 2.
——, Eocene.—Andrews, C. W., 8; Matthew, W. D., 15.
——, Miocene.—Shufeldt, R. W., 3 & 4; Wetmore, A.
——, Pleistocene.—Bell, A., 4; Campana, D. del, 3; Miller, L. H., 1–3; Munthe, H., 5.
Aveyron, Dept. (France).—Marty, P., 1; Monestier, J.; Mouret, G., 2.
Avezzano (Italy).—Davison, C., 3.
Avicula.—Kegel, W.; Ravn, J. P. J., 2, 5 & 6; Rollier, L., 2; Spitz, A., 1; Tolmatcheff, I. P.
Aviculipinna.—Girty, G. H., 1.
Aviculopecten.—Diener, C.; Dunlop, R., 2; Fuchs, A.; Kegel, W.; Mansuy, H., 2; Spriestersbach, J.
Aviculovulsa.—Cossmann, M., 1.
Avigliana (Italy).—Lincio, G., 3.
Avignon (France).—Termier, P., 11.
Avogadro's Law.—Chirvinski, P. N., 1.
Avon Quadrangle (Illinois).—Savage, T. E., 2.
Avonian, correlation of, with Dinantian.—Vaughan, A., 1.
——, shore-line, Britain.—Vaughan, A., 2.
Avonothyris.—Buckman, S. S., 4.
Awaji I. (Japan).—Yabe, H., 2.
Axe, 'Carib' type of.—Armstrong, A. L.
Axinœa.—Cossmann, M., 1; Martin, K.
Axinite.—Flink, G., 4; Sargent, H. C., 2; Wherry, E. T., 2.
Axinus.—Ravn, J. P. J., 5.
Axiodeaneia.—Clark, T. H.
Axius.—Rathbun, M. J., 4.
Ayot (Hertfordshire). — Sherlock, R. L., 3.
Ayrshire.—Carruthers, R. G., 8; Macnair, P., 4; Wilson, G. V.
Aysheaia.—Walcott, C. D., 11.
Aztec gold mine (New Mexico).—Lee, W. T., 3.

Bababudan Hills (Mysore).—Sampat Iyengar, P., 1.
Babingtonite.—Fenner, C. N., 1; Flink, G., 1.
Baboon ? Pliocene.—Andrews, C. W., 6.
Bachant (France).—Carpentier, A., 1.
Bacilli, fossil.—Ellis, D., 1.
Bäckströmite.—Aminoff, G., 12.
Bacteria, Algonkian.—Walcott, C. D., 10.
——, deposition of carbonate of lime &.—Kellerman, K. F.
——, fossil.—Ellis, D., 1 & 2.

Bacteriology, Mesozoic.—Moodie, R. L., 11.

Baculites.—Greco, B., 3; Waring, C. A.

Bad-Nauheim (Germany).—Schottler, W.

Baden (Germany).—Schalch, F.

Badia (Lombardy).—Bonomini, C., 3.

Baena.—Gilmore, C. W., 6.

Bagh beds, India.—Fourtau, R., 6.

Bagni di Casciana (Italy).—Samsonoff-Aruffo, C., 2.

Bagnoles-de-l'Orne (France).—Loisel, P.

Bagshot beds, water in the.—Eassie, W.

—— district.—Monckton, H. W., 1.

Bahamas, coral reefs.—Vaughan, T. W., 1, 2, 5 & 8.

Bahia (Brazil).—Crandall, R.

Băicoi (Roumania).—Botez, G., 4.

Baicolliou (Switzerland).—Stauffacher, J., 2.

Baiera.—Antevs, E., 3; Halle, T. G., 1; Lundqvist, G.; Mœller, H.; Walkom., A. B., 3.

BAILEY, T. E. G., *Obit.*, *See* Anon., 1.

Bailleul (Flanders).—Flahault, E.

BAIRD, S. F., *Biogr.*—*See* Dall, W. H., 1.

Bairdia.—Chapman, F., 3, 13, 16 & 18; Girty, G. H., 3.

Bairnsdale gravels, Victoria.—Chapman, F., 31.

'Bajada' belt terraces.—Keyes, C. R., 8.

Bajocian.—Grossouvre, A. de, 2; Jourdy, E., 8.

——, limits of the.—Lissajous, M.

Baku (Russia).—Huntley, L. G., 1.

Balæna.—Caterini, F., 1.

Balænoptera.—Allen, G. M.

Balambangan I. (Borneo).—Rutten, L., 2.

Balanidæ, phylogeny. Ruedemann, R., 2.

Balanocrinus.—Bather, F. A., 8.

Balanophyllia.—Nomland, J. O., 1; Vaughan, T. W., 12.

Balanus.—Chapman, F., 3 & 16; Clark, B. L., 5; Pilsbry, H. A., 2.

Baldy (New Mexico).—Lee, W. T., 3.

Balearic Is.—Andrews, C. W., 5; Bate, D. M. A., 2; Fallot, P., 1–3.

Bali I. (E. Indies).—Brouwer, H A., 4.

Ball coal.—*See* Coal balls.

Ball structure, in sandstones.—Smith, Bernard, 2.

Ballan (Victoria).—Baragwanath, W., 7.

Ballandean dist. (Queensland).—Saint-Smith, E. C., 1.

Balmes-de-Voreppe (Isère).—Muller, H.

Balmhorn (Switzerland).—Lugeon, M., 8.

Baltic Basin.—Howorth, Sir H. H.; Raymond, P. E., 3; Twenhofel, W. H., 2 & 3.

Baltistan (Kashmir).—Middlemiss, C. S., 4.

Baltschieder Valley (Switzerland).—Sigg, H., 5.

BALTZER, A., *Obit.*—*See* Heim, Alb., 10; & Sarasin, C., 3.

Baluchistan (India), Miocene mammalia.—Cooper, C. F.

—— (—), sulphur deposits.—Cotter, G. de P., 4.

Bamford (N. Queensland).—Ball, L. C., 2.

Banbury (Oxfordshire).—Walford, E. A., 1.

'Banded ironstone,' Rhodesia.—Zealley, A. E. V., 9.

Banding, in sandstone.—Reusch, H., 8.

Banff (Alberta).—Elworthy, R. T., 1; Lambe, L. M., 2.

Banffshire (Scotland).—Read, H. H.

Bangalore District (Mysore).—Venkataramaiya, B. N., 1.

Bangor dist. (Tasmania).—Twelvetrees, W. H., 11.

Banguey I. (Borneo).—Rutten, L., 2.

Banisteria.—Berry, E. W., 18.

Banket, the, Witwatersrand.—Young, R. B., 3.

Banks Peninsula (N.Z.).—Speight, R., 9.

Banks, submarine, coral reefs &.—Davia, W. M., 18.

Banne d'Ordanche (Auvergne).—Glangeaud, P., 12.

Bantam dist. (Java).—Van Es, L. J. C. *fil.*, 1 & 2.

Bao-lac (Tonkin).—Deprat, J., 15.

Baptornis.—Shufeldt, R. W., 2.

Bar-le-Duc (France).—Dollfus, G. F., 10.

Baralaba (Queensland).—Cameron, W. E., 5.

Baraques (Belgium).—Dubois, J.

Barbatia.—Cossmann, M., 5; Dickerson, R. E., 9.

Barberton dist. (Transvaal).—Hall, A. L., 1, 3 & 6.

Barbery (Calvados).—Kerforne, F., 1.

Barcelonne (France).—Sayn, G., 1.

Baris.—Wickham, H. F., 3.

Barite.—Manfredi, P.; Tronquoy, R.

—— deposits, Denmark.—Nœrregaard, E. M., 2.

—— ——, Great Britain.—Carruthers, R. G., 6.

—— ——, Missouri.—Tarr, W. A., 7.

—— ——, Ontario.—Walker, T. L., 4.

—— ——, Sardinia.—Grill, E., 2.

—— ——, South Australia.—Connor, J. D.; *see also* SOUTH AUSTRALIA, 8 *&* 13.

—— ——, Sweden.—Aminoff, G., 7.

—— —— United States.—Watson, T. L., 6.

Barite deposits, origin of.—Lewis, J. V., 3.
Barium, in rare earths.—Zambonini, F., 2 & 5.
Barium-orthoclase.—Tschermak, G., 3.
Barker Creek (Yukon Terr.).—Cairnes, D. D., 7 & 10.
Barkly Tableland (N. Terr. S. Australia).—Jensen, H. I., 1.
Barleeia.—Cerulli-Irelli, S., 1.
BARLOW, A. E., *Obit.*—*See* Adams, F. D., 1; *&* Anon., 2.
Barna (Co. Galway).—Cole, G. A. J., 3.
Barnacles, Acorn.—Ruedemann, R., 2.
——, Goose.—Clarke, J. M., 10.
Barnea.—Newton, R. B., 1.
Barnsley coal seam, Yorkshire.—Fearnsides, W. G., 2.
Barnwell (Cambridge).—Marr, J. E., 6.
Barometric pressure, variation of water-level in wells with.—Bilham, E. G., 1.
Barornis.—Shufeldt, R. W., 2.
Barrandeinea.—Kolderup, C. F., 6; Nathorst, A. G., 2.
Barrandella, Barrandeoceras.—Parks, W. A., 2.
Barrandite.—Doelter, C., 1.
BARRELL, J., *Obit.*—*See* Anon., 3; & Schuchert, C., 19.
Barremian, France.—Cossmann, M., 5 & 6; Kilian, W., 8; Sayn, G., 1
Barrie dist. (Ontario).—Johnston, W. A., 6.
Barrier reef, Australia.—Davis, W. M., 9.
—— reefs, formation of.—Vaughan, T. W., 6.
Barroisella.—Weller, S., 1.
Barroisia.—Douvillé, H., 4.
Barroisiceras.—Greco, B., 2.
Baroota Creek (S. Australia).—*See* SOUTH AUSTRALIA, 15.
Barshaw (Renfrewshire).—Tyrrell, G. W., 1.
Barstow-Keamer dist. (California).—Pack, R. W., 1.
Barthite.—Doelter, C., 1.
Bartonian, France.—Lambert, J., 1.
——, Pyrenees.—Dalloni, M., 6.
Barysilite.—Flink, G., 4.
Barytes.—*See* Barite.
Basalt, Antarctica.—Bæckstrœm, O.
——, Arran.—Tyrrell, G. W., 7.
——, Greenland.—Mercanton, P. L., 3.
——, Idaho.—Mansfield, G. R., 6.
——, Kerguelen I.—Lacroix, A., 16.
——, New South Wales.—Harper, L. F., 2.
——, Patagonia.—Bæckstrœm, O.
——, Portugal.—Lacroix, A., 68.
—— Reunion I.—Lacroix A., 64.
——, Sandwich Is.—Bæckstrœm, O.
Basalt, Sardinia.—Serra, A., 3.
——, Sierra de Guadarrama, Spain.—Navarro, L. F., 2.
——, Somaliland.—Manasse, E., 3.
——, Virginia.—Watson, T. L., 4.
——, analcime.—Pelikan, A.
——, columnar.—Dauzère, C., 2; Guébhard, A., 30.
——, mineral formations in.—Panebianco, G., 3.
——, origin of.—Dolomieu, D. de, 2.
——, quartz in.—Fenner, C., 1.
Basaltic iron, Greenland.—Sjœgren, H., 2.
—— magmas.—Bowen, N. L., 2.
—— rocks, Arctic.—Holmes, A., 15.
—— ——, Italy.—Azzini, F.
Bascom Lake (U.S.A.).—Taylor, F. B., 2.
Basècles (Belgium).—Halet, F., 2.
Basel (Switzerland).—Braun, G., 1 & 2; Gutzwiller, A., 1 & 2; Stehlin, H. G., 4; Struebin, K., 3.
Basement beds, Pliocene, East Anglia.—Haward, F. N.
—— ——, Siwalik, Punjab.—Pilgrim, G. E., 8.
Basic intrusions, Radnorshire.—Smith, H. G., 2.
—— ——, Rhode I., U.S.A.—Hawkins, A. C., 3.
—— ——, Warwickshire.—Brammall, A., 1 & 2.
—— refractories.—McDowell, J. S., 2.
—— rocks, conversion of, to amphibolite.—Lacroix, A., 48.
Basicity, of meteorites, in relation to number of falls.—Merrill, G. P., 15.
Basilicata (Italy).—Cassetti, M., 2.
Basiliite.—Doelter, C., 1.
Basin (Wyoming).—Lupton, C. T., 3.
Basins, closed, in Norway.—Reusch, H., 14.
——, ——, in Swiss Alps.—Collet, L. W., 3, 4, 6 & 7; Girardin, P., 3.
BASSANI, F., *Obit.*—*See* Erasmo, G. d', 2; & Parona, C. F., 5.
Bassano, volcano (Italy).—Sabatini, V., 8.
Bassariscus.—Merriam, J. C., 7.
Basses-Alpes, Dept. (France).—Guébhard, A., 1, 2, 6–12, 14, 15 & 17; Kilian, W., 2 & 10–12; Zurcher, P., 1 & 4–6.
Basses-Pyrénées, Dept. (France).—Bertrand, L., 1; Douvillé, H., 32; Lapparent, J. de, 3; Stuart-Menteath, P. W., 4; Welsch, J., 1 & 2.
Bassetite.—Hallimond, A. F., 1.
Båstad (Sweden).—Wiman, C., 5.
Basterotia.—Cossmann, M., 8.
Bastnaesite.—Lacroix, A., 11.
Bastogne (Belgium).—Doyen, A.
Batacanthus.—Branson, E. B., 3.
Batavite.—Doelter, C., 2.
Batesville Sandstone, Arkansas.—Girty, G. H., 2 & 3.

Bath (Somerset).—Richardson, L., 9.
Batholiths, Montana.—Billingsley, P., 2 & 3.
——, Ontario.—Foye, W. G., 3.
——, Sweden.—Eskola, P., 4; Geijer, P., 11.
Bathonian, French Jura.—Bourgeat, l'Abbé, 1.
——, Lorraine.—Kluepfel, W., 1.
——, Oxfordshire.—Odling, M., 2 & 3.
——, Portugal.—Lambert, J., 2.
——, limits of the.—Grossouvre, A. de, 2; Lissajous, M.
Bathotheca.—Oppliger, F.
Bathraspira.—Cossmann, M., 5.
Bathysiphon.—Sacco, F., 3.
Bathytoma.—Anderson, F. M.; Cipolla, F.
Bathyuriscus.—Walcott, C. D., 5 & 7.
Bathyurus.—Reed, F. R. C., 3.
Batocrinus.—Wilson, H. E.
Batopora.—Waters, A. W.
Batostoma.—Cumings, E. R., 2; Vinassa de Regny, P., 3.
Batrachopora.—Lang, W. D., 9.
Batrachopus.—Lull, R. S., 3.
Batrachosuchus.—Watson, D. M. S., 10.
Battle (Sussex).—Lamplugh, G. W., 2.
Battle Mountain (Nevada).—Young, G. J., 1.
Bauchi (Nigeria).—Canning, A. R.
BAUER, M. H., *Obit.*—*See* Anon., 4.
Bauhinia.—Colani, M.; Kryshtofovich, A., 2
Bauria.—Broom, R., 4 & 5; Watson, D. M. S., 3.
Bautista Creek (California).—Frick, C.
Bauxite, Arkansas.—Fermor, L. L., 7; Mead, W. J.; Wysor, D. C., 1.
——, British Guiana.—*See* BRITISH GUIANA, 11.
——, Spain.—Calatayud, J. R. B.
——, production of.—Phalen, W. C., 2.
——, refractory properties of.—Le Chatelier, H., 8.
Bavaria.—Woodward, A. S., 29.
Baveno (Italy).—Artini, E., 2; Balzac, F., 4.
Bawdwin mines, N. Shan States (Burma).—Brown, J. C., 8; Hoffmann, J. D.; Loveman, M. H., 1.
Bawean I. (E. Indies).—Iddings, J. P., 7.
Bayania.—Cossmann, M., 1.
Bayeux (Calvados).—Nicolesco, C., 1 & 2.
Bayford (Hertfordshire). — Pocock, R. W., 1.
Bayldonite.—Doelter, C., 1.
Baylea.—Mansuy, H., 1.
Bazzite.—Artini, E., 2.
Beach deposits, Nova Scotia.—McIntosh, D. S., 3.
Beaches, raised.—*See* Raised Beaches.
Beachia.—Williams, H. S., 2.
Beak characters, of brachiopoda.—Thomson, J. A., 4.
Bealiba (Victoria).—Dunn, E. J., 3.
Beaminster (Dorset).—Richardson, L., 8.
Beaniceras.—Trueman, A. E., 5.
Bear I. (Arctic ocean).—Antevs, E., 10.
Bear R. Basin (Idaho).—Marshall, R. B., 5.
—— —— Formation.—Mansfield, G. R., 7.
Beatricea.—Raymond, P. E., 2; Schuchert, C., 18.
Beatty-Munro gold area (Ontario).—Hopkins, P. E., 1.
Beauce (France).—Dollfus, G. F., 6.
Beauce County (Quebec).—Tyrrell, J. B., 7.
Beaucens (Hautes-Pyrénées).—Garrigou, F., 1.
Beauly (Inverness).—Horne, J., 9.
Beaver, in Denmark.—Nordmann, V., 1.
Beaver (Utah).—Loughlin, G. F., 2.
Beaverdell dist. (B.C.).—Reinecke, L., 1 & 2.
Beaverite.—Knopf, A., 3.
Beaverlodge Lake dist. (Saskatchewan).—Alcock, F. J., 3.
Bechuanaland (S. Africa). — McDowell, B.; Wybergh, W.
Beckelite.—Doelter, C., 2.
BECKER, G. F., *Obit.*—*See* Anon., 5; & Day, A. L., 2.
Beckwith Formation, Idaho.—Mansfield, G. R., 7.
Beddington (Surrey).—Davies, G. M., 6.
Bedfordshire.—Davies, A. M., 3.
Bedhampton (Hampshire).—Thomson, D. H.
Beechworth (Victoria).—Dunn, E. J., 11.
Beer Stone, Devonshire.—Davies, G. M., 5.
Begudian, S. France.—Repelin, J., 3.
Bekinkinite, Renfrewshire.—Tyrrell, G. W., 1.
Bela.—Harmer, F. W., 2.
Belaster.—Spencer, W. K., 1.
Belcher Is. (Hudson Bay).—Moore, E. S., 5.
Belemnitella mucronata Zone, I. of Wight.—Brydone, R. M., 6 & 7.
Belemnites, silicification of.—Meunier, S., 20.
Belemnites.—Crick, G. C., 6; Spitz, A., 1; Trechmann, C. T., 5.
Belfast (S. Africa).—Hall, A. L., 4.
Belfort (France).—Dollfus, G. F., 11.
Belgium.—Mailleux, E., 1–8; Malaise, C., 1 & 2; Révil, J., 3.
——, Carboniferous.—Delépine, G., 1; Renier, A., 2–4; Stainier, X., 2–6 & 8.
——, iron ores.—Cayeux, L., 2.

Belgium, Tertiary.—Depéret, C., 2–4; Leriche, M., 1.
BELL, R., *Obit.*—*See* Adams, F. D., 3; Anon., 6; & Harker, A., 6.
Bell-ville (Argentina).—Bado, A. A., 1.
Belle-Ile-en-Mer (Brittany).—Gadeceau, E.; Lesne, P., 1 & 2.
Belle-Isle (Louisiana).—Lucas, A. F.
Bellerophon.—Branson, E. B., 3; Chapman, F., 6; Dunlop, R., 2; Fuchs, A.; Girty, G. H., 1 & 2; Kegel, W.; Mansuy, H., 2; Parks, W. A., 2; Reed, F. R. C., 3; Savage, T. E., 4; Stefani, C. de, 4; Williams, H. S., 2.
Bellinurus.—Trechmann, C. T., 6; Woodward, H., 6.
Bellisio (Italy).—Quercigh, E., 5.
Belly R. Formation (Alberta).—Brown, B., 2 & 3; Matthew, W. D., 3; Sternberg, C. H.,
Belmontia.—Tillyard, R. J., 11.
Belonorhynchus.—Eastman, C. R., 2.
Belonostomus.—Eastman, C. R., 2; Erasmo, G. d', 1.
Belosepia.—Llueca, F. G.
Beltina.—Walcott, C. D., 2.
Beluga.—Ardley, E., 2.
Bembesi R. Basin (S. Rhodesia).—Macgregor, A. M., 2; Maufe, H. B., 5.
Bembexia.—Girty, G. H., 2 & 3.
Ben Nevis (Scotland).—Bailey, E. B., 4.
Benacian Basin (Lombardy).—Cacciamali, G. B., 1.
Benamaurel (Spain).—O'Shea, W.
Bendigo (Victoria).—Bateman, A. M., 3; Stillwell, F. L., 2 & 3; Taber, S., 5; Whitelaw, H. S., 6.
Beneden-Jambi dist. (Sumatra).—*See* DUTCH EAST INDIES, 5.
Bengal (India).—George, G.
Benguella, Prov. (W. Africa).—Gregory, J. W., 33; Tyrrell, G. W., 14.
Benkulen (Sumatra).—Moerman, C.; Pontoppidan, H., 2.
Bennettitales, Mesozoic. — Stopes, M. C., 5 & 6.
Bennettites.—Stopes, M. C., 2 & 6; Walkom, A. B., 3.
Benoit Township (Ontario).—Burrows, A. G., 2.
Bentse (Norway).—Œyen, P. A., 3.
Benzene, analysis of.—Harker, G.
Benzoin.—Sangiorgi, D., 2.
Beraunite.—Doelter, C., 1; Wherry, E. T., 2.
Berchemia.—Baumberger, E., 2; Reid, C., 6.
Bere Farm (Kent).—Kidston, R., 2; Pringle, J., 1.
Berea Formation (Ohio).—Condit, D. D., 2 & 3; Cushing, H. P., 2; Verwiebe, W. A., 1.
Berellaia.—Cossmann, M., 1.
Berenicea.—Canu, F., 4.
Bereozovsk (Russia). — Purington, C. W., 1.
Bergell (Switzerland).—Staub, R., 2 & 5.
Bergen (Norway).—Kolderup, C. F., 3; Melkild, O.
BERGERON, P. J. J., *Obit.*—*See* Anon., 7.
BERINGER, J. J., *Obit.*—*See* Anon., 8.
Berkhamsted (Herts.).—Gilbert, C. J., 2.
Berkshire (England).—Hawkins, H. L., 11.
——— (Massachusetts).—Gordon, G. W.
Bernina Mts. (Switzerland).—Sangiorgi, D., 3; Spitz, A., 3; Staub, R., 1, 3 & 4.
Berriasella.—Schneid, T.
Berry Mt. Creek (Quebec).—Mailhiot, A., 2.
Bersbo (Sweden).—Svenonius, F., 3.
Berthierite.—Koechlin, R., 1.
BERTRAND, C. E., *Obit.*—*See* Leriche, M., 8.
Bertrix-Herbeumont (Eifel).—Fourmarier, P., 7.
BERWERTH, F., *Obit.*—*See* Anon., 9.
Berwyn Hills (N. Wales).—Cope, T. H.
Beryl.—Doelter, C., 2; Flink, G., 4; Lacroix, A., 1.
———, Mexico.—Wittich, E., 1.
———, New South Wales.—Mingaye, J. C. H., 1.
———, South Australia.—Mawson, Sir D., 1.
———, etch figures of.—Honess, A. P., 1.
———, extraction of glucina from.—Copaux, H.
———. *See also* Aquamarine, Emerald.
Berzelite.—Doelter, C., 1.
Betafite.—Lacroix, A., 1; Ungemach, H., 1.
Bethlehem (Pennsylvania).—Wherry, E. T., 7.
Bethylitella.—Cockerell, T. D. A., 16.
Betic Strait (S. Spain).—Gentil, L., 13 & 15; Navarro, L. F., 8.
Bett's Creek (N. Queensland).—Reid, J. H., 1.
Betula.—Colani, M.; Gertz, O., 1; Knowlton, F. H., 4; Reid, C., 6.
Beudantite.—Doelter, C., 1; Lacroix, A., 10.
Bexhill (N.S.W.).—Walkom, A. B., 7.
Beyrichia.—Fuchs, A.; Hede, J. E., 3; Kegel, W.
Biana Hills (India).—Heron, A. M., 4.
Biarritz (Basses-Pyrénées).—Stuart-Menteath, P. W., 4.
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———, Bristol District.—Livingstone, J. E., 1 & 2.

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——, Chile.—Brueggen, J., 5.
——, India.—La Touche, T. H. D., 1.
——, Italy.—Tissi, E.
——, Minnesota.—Gregory, W.
——, N. America.—Nickles, J. M., 1–3.
——, North of England.—Sheppard, T., 4–8.
——, Portugal,—Choffat, P., 8 & 9.
——, Switzerland.—Sarasin, C., 2, 4 & 5.
——, Tasmania.—Twelvetrees, W. H., 2.
——, United States minerals.—Evans, I. P.
——, Western Australia.—*See* Western Australia, 13.
——, Yorkshire.—Sheppard, T., 3.
——, of fishes.—Dean, B.
——, glaciological, of Italy.—Monterin, U., 3.
——, of manganese ores.—Wheeler, H. L.
——, of Palæozoic Crustacea.—Vogdes, A. W.
——, pre-Cambrian, N. America.—Steidtman, E., 1.
——, volcanoes, S. Italy.—Lavis, H. J. J.
Bibos.—Matsumoto, H., 1 & 8.
Bickmore, A. S., *Obit.*—*See* Kunz, G. F., 1.
Bidart (Basses-Pyrenees).—Stuart-Menteath, P. W., 4; Welsch, J., 1 & 2.
Biebersteinia.—Reid, C., 6.
Bienne, Lake of (Switzerland).—Baumberger, E., 1; Heim, Alb., 2 & 7.
Bienne, R. (Jura).—Bourgeat, l'Abbé, 6.
Bière (Switzerland).—Musy, M., 5.
Bifurculapes.—Lull, R. S., 3.
Big Muddy Dome (Wyoming).—Barnett, V. H., 2.
Big Sandy coalfield (Montana).—Bowen, C. F., 3.
Big Smoky Valley (Nevada).—Meinzer, O. E., 3.
Bigenerina.—Chapman, F., 18; Cushman, J. A., 1.
Bighorn R. (Wyoming).—Schrader, F. C., 1.
Bigotella.—Nicolesco, C., 1.
Bilbao (Spain).—Grosch, P.
Billings (Oklahoma).—Fath, A. E., 2.
Billingsella.—Chapman, F., 23; Mansuy, H., 3.
Billiton I. (E. Indies).—Groothoff, C. T.
Bilobites.—Williams, M. Y., 11.
Biloculina.—Cushman, J. A., 1.
Bindheimite.—Doelter, C., 1.
Bingham Canyon (Utah).—Atwood, W. W., 2; Beeson, J. J.
Binnental (Switzerland).—Brun, A., 5 & 6; Solly, R. H., 1 & 2; Werdmueller, O.
Binningen (Switzerland).—Leuthardt, F., 1.
Biographies, of Portuguese Geologists.—Choffat, P., 2, 5 & 7.
Bion, H. S., *Obit.*—*See* Hayden, Sir H. H., 2; & Woodward, A. S., 8.
Biotite, S. Australia.—Stanley, E. R., 3.
——, transparency of.—Martin, L. C.
Biradiolites.—Douvillé, H., 1 & 3.
Biradiolitinæ, evolution of the.—Douvillé, H., 1.
Birds, origin of.—Gregory, W. K., 4.
——. *See also* Aves.
Birds Quadrangle (Illinois).—Rich, J. L., 3.
Birkenhead, water-supply.—*See* Birkenhead.
Birkinbine, J., *Obit.*—*See* Raymond, R. W., 2.
Birmensdorf beds, Jura.—Oppliger, F.
Birse Forest (Aberdeenshire).—Newlands, G., 2.
Birur (Mysore). — Venkataramaiya, B. N., 3.
Bisbee (Arizona).—Ford, W. E., 7; Irving, J.,
Bisbeeite.—Schaller, W. T., 2.
Biserta (Tunisia).—Gentil, L., 18.
Bismite.—Means, A. H., 2.
Bismuth, production of.—Hess, F. L., 2.
—— ores, Queensland.—Ball, L. C., 2; Cameron, W. E., 3.
—— ——, Switzerland.—Stauffacher, J., 2.
Bismuthinite.—Artini, E., 4.
Bismutosphærite, Rhodesia.—Zealley, A. E. V., 4.
Bison. — Botezat, E.; Chandler, A. C., 2; Hay, O. P., 1 & 2; Matsumoto, H., 2 & 8.
Bisontinæ, E. Asia.—Matsumoto, H., 8.
Bithinia.—Cossmann, M., 1; Roman, F., 2.
Bittium.—Clark, B. L., 1; Dall, W. H., 2 & 5; Dickerson, R. E., 6; Harmer, F. W., 2.
Bitumen, Philippine Is. — Pratt, W. E., 2.
——, Portugal.—Choffat, P., 1.
Bitumens, occurrence, &c., of.—Danby, A.
Bituminous beds, Chile.—Felsch, J., 1.
—— rocks, Sicily.—Gregorio, A. de, 3 & 5.
—— ——, Switzerland.—Girard, R. de.
—— sands, Alberta.—Ells, S. C., 1.
Biwabik Formation, Minnesota.—Broderick, T. M., 5; Grout, F. F., 8 & 9.

Black Bay dist. (Saskatchewan).—Alcock, F. J., 3.
Black earth, Morocco.—Dantín, J.
—— ——, Spain.—Hernandez-Pacheco, E., 2.
Black Forest (Germany).—Bubnoff, S. von.
Black Hills (S. Dakota).—Paige, S., 1 & 2.
Black Isle (Scotland).—Horne, J., 9.
Black Lake dist. (Quebec).—Graham, R. P. D., 1; Harvie, R., 3; Poitevin, E., 2.
Black Shale, deposition & formation of.—Schuchert, C., 3; Twenhofel, W. H., 2.
Blackbyre Limestone, W. Scotland.—Macnair, P., 8.
Blackwelderia.—Mansuy, H., 3.
Blair County (Pennsylvania).—Butts, C., 4.
Blakeville (Victoria). — Ferguson, W. H., 3.
Blaserna, P., *Obit.*—*See* Cantone, M.
Blastoidea, Carboniferous. — Clark, T. H.
Blattoidea, Triassic.—Tillyard, R. J., 7.
Blea Wyke Point (Yorkshire).—Percival, F. G., 2.
Blende deposits, Missouri & Wisconsin.—Buchanan, G. H., 2.
—— ——, Sweden.—Sluys, W.
——, extraction of germanium from.—Blondel, —.
Block I. (Rhode I., U.S.A.).—Shimer, H. W., 2.
Block faulting, Oregon.—Johnson, D. W., 3.
Block mountains, N.Z. — Cotton, C. A., 2 & 3.
Blödite.—Schaller, W. T., 3.
Bloomington (Indiana). — Ramsey, R. R., 2.
Blountia.—Walcott, C. D., 5.
Blow-pipe, in pyrometry.—Holmquist, P. J., 4.
'Blue John.'—Blount, B., 2.
Blue quartz, colour of.—Watson, T. L., 7.
Blue Ridge (Virginia). — Watson, T. L., 4 & 5.
Blue Tier dist. (Tasmania).—Moore, M. S.
Blythe R. (Tasmania).—Boyd, A. A.
Boccadifalco (Sicily).—Gregorio, A. de, 5.
Bodö-Folden dist. (Norway).—Rekstad, J., 10.
Boeckia.—Westergård, A. H., 1.
Bog iron ores, formation of.—Dake, C. L., 2.
Boguslawka (E. Siberia).—Backlund, H., 2.
Bohemia.—Bayer, F., 1 & 2; Hibsch, J. E., 1; Seeman, F.
Bohus dist. (Sweden).—Antevs, E., 8; Odhner, N. H.
Bois des Buttes (Aisne).—Charpiat, R., 11.
Bois Prieur (Somme).—Commont, V., 4.
Boise Basin (Idaho).—Jones, E. L., 4.
Bokhara, water-supply.—Tichanoff, M.
Boleite.—Hadding, A., 5.
Bolivia (S. America).—Herzog, T.; Schiller, W.; Sefve, I., 1 & 2.
—— (——), oilfields.—Longobardi, E.
Bolivian Andes, age of the.—Berry, E. W., 14.
Bolivina.—Chapman, F., 17 & 18; Cushman, J. A., 1; Udden, J. A., 3.
'Bolle del Malvizza' (Italy).—Bongo, F., 2.
Bollnäs (Sweden).—Halden, B. E., 1.
Bolsena, Lake of (Italy).—Moderni, P.; Sabatini, V., 3 & 6; Simotomai, H., 1.
Boltenella.—Wade, B., 3.
Bombay (India). — La Touche, T. H. D., 2.
Bombyliidæ, fossil & recent.—Cockerell, T. D. A., 2.
Bona (Algeria).—Depéret, C., 8.
Bondi (N.S.W.).—Hedley, C.
Bone, growth of, in Cretaceous period.—Moodie, R. L., 10.
Bone bed, Suffolk.—Moir, J. R., 3.
—— cave, Sutherlandshire.—Peach, B. N.
Bonellitia.—Harmer, F. W., 2; Newton, R. B., 1.
Bones, fossil, from Egypt.—Parona, C. F., 11.
Boni (Celebes).—Knijff, J. de K.
Boninite, Madagascar.—Lacroix, A., 58.
Bonneville Lake, origin of.—Keyes, C. R., 9.
Boogardie dist. (Western Australia).—Jutson, J. T., 2.
Book Cliffs (Utah).—Lewis, R. S.
Boom Clay, Belgium.—Depéret, C., 3.
Boone Chert, Arkansas.—Girty, G. H., 3.
—— ——, Kansas.—Berger, W. R., 1.
—— Limestone, Arkansas.—Girty, G. H., 4.
Boötherium.—Hay, O. P., 1 & 2.
Bootless Inlet (Papua).—Chapman, F., 1.
Bora-Bora I. (Society Is.).—Lacroix, A., 43.
Borås (Sweden).—Sandegren, R., 4.
Boreaphilus.—Mjœberg, E.
Boreotrophon.—Newton, R. B., 1.
Borgo S. Donnino (Italy).—Vinassa de Regny, P., 2.
Borgofranco d'Ivrea (Italy).—Lincio, G., 2.
Bořickyite.—Doelter, C., 1.
Boring, electric system of.—Urbina, F., 1.

Boring cores, Levack, Ontario.—Brackenbury C.
—— ——, Manitoba.—McLearn, F. H., 3.
—— ——, Northern Terr., S. Australia.—Dunn, E. J., 1.
—— ——, assay of.—Perry, E. H.
Boring, rock-, organisms.—Barrows, A. L., Jehu, T. J., 1.
Borings, Alberta, Canada.—Slipper, S. E., 2.
——, Bar-le-Duc, France.—Dollfus, G. F., 10.
——, Baralaba, Queensland.—Cameron, W. E., 5.
——, Battle, Sussex.—Lamplugh, G. W., 2.
——, Belgium.—Dubois, J.
——, Cardiff.—North, F. J., 3.
——, Caux, Normandy.—Lemoine, P., 2.
——, Charleston, S. Carolina.—Stephenson, L. W., 1.
——, Claverly, Shropshire.—Kidston, R., 4.
——, Donnington, Lincs.—Pringle, J., 2.
——, Douai, France.—Barrois, C., 1.
——, Durham.—Woolacott, D., 2.
——, East Anglia.—Boswell, P. G. H., 10.
——, Edinburgh.—Horne, J., 1; Tait, D., 2.
——, Funafuti I.—Cullis, C. G., 1; Skeats, E. W., 5.
——, Gloucestershire.—Richardson, L., 1–3.
——, Gosmore, Herts.—Strahan, Sir A., 5 & 9.
——, Gotland.—Munthe, H., 2.
——, Hinckley, Leicestershire.—Pickering, A. J.
——, Holland.—*See* Holland.
——, Holywell, Flintshire.—Strahan, Sir A., 8.
——, Illinois.—Udden, J. A., 2.
——, Kansas.—Smith, A. J.
——, Kelham, Notts.—Strahan, Sir A., 6.
——, Kent coalfield.—Arber, E. A. N., 3; Bolton, H., 1; Kidston, R., 2; Pringle, J., 1.
——, Kilnsea, Yorkshire.—Lamplugh, G. W., 4.
——, Little Missenden, Bucks.—Strahan, Sir A., 3.
——, Liverpool.—Greenwood, H. W., 2; Wray, D. A., 2.
——, London Basin.—Baker, H. A., 1.
——, Louisiana.—Lucas, A. F.
——, Mallee, Victoria.—Chapman, F., 3 & 16.
——, Manchester.—Hickling, G., 8.
——, Market Weighton.—Gibson, W., 2.
——, New Zealand.—Hetherington, J. R.
Borings, Nord.—Pagniez, —, 1–6.
——, Northern Terr., S. Australia.—Jensen, H. I., 2.
——, Nottingham coalfield.—Longden, G. A.
——, Perth, Scotland.—Bates, G. F., 2.
——, Po Basin, Italy.—Roccati, A., 3 & 4.
——, Pollington, Yorkshire.—Gibson, W., 1.
——, Presteign, Radnorshire.—Cantrill, T. C., 3 & 4.
——, Roma, Queensland.—Cameron, W. E., 2.
——, St. Symphorien, France.—Heupgen, J.
——, Scania, Sweden.—Gavelin, A., 3; Grœnwall, K. A., 1.
——, Seascale, Cumberland.—Gregory, J. W., 4.
——, Sologne, France.—Dollfus, G. F., 7.
——, South Australia.—Howchin, W., 3.
——, Texas.—Udden, J. A., 4.
——, Upsala, Sweden.—Svenonius, F., 5.
——, Versailles, France.—Bertrand, L., 3 & 4.
——, Victoria.—Herman, H., 3.
——, Western Australia.—Woodward, H. P., 2.
——, Whittlesford, Cambridge.—Strahan, Sir A., 1.
——, Winterbourne, Gloucester.—Cantrill, T. C., 8.
——, Witwatersrand, Transvaal.—Sawyer, A. R.
——, Yucatan.—Casillas y Cruz, S., 2.
——, deep, temperatures in.—Johnston, J., 4; Verzat, —.
——, for water.—Dow, E. B.
——. *See also* Artesian wells.
Borkou (Sudan).—Lacroix, A., 77.
Borneo.—Mueller, F. P.; Rutten, L., 2 & 3; Yabe, H., 7.
——, diamonds in.—Krol, L. H.
Bornholm I. (Denmark).—Grœnwall, K. A., 8; Hadding, A., 3; Milthers, V., 2; Ravn, J. P. J., 2 & 3.
Bornia.—Dall, W. H., 2.
Bornite, as a silver precipitant.—Palmer, C., 1.
——, composition of.—Allen, E. T.; Rogers, A. F., 2; Wherry, E. T., 3.
——, intergrowth of, with chalcocite.—Rogers, A. F., 5.
Boromys.—Allen, G. M., 2.
Boron, in silicates.—Cesàro, G., 16; Lacroix, A., 76.
——, in volcanic exhalations.—Brun, A., 4.
Borrowdale (Cumberland).—Dunn, J. W.
Borsonia.—Marshall, P., 13; Martin, K.; Moody, C. L., 1.

Bort, Colline de (Auvergne).—Glangeaud, P., 10.
Borzellino (Sicily).—Gregorio, A. de, 5.
Bos d'Arros (Aquitaine).—Douvillé, H., 14.
Bos.—Matsumoto, H., 2; Suschkina-Popowa, N.
Bosa (Sardinia).—Serra, A., 1 & 4.
Boskop (Transvaal). — Haughton, S. H., 4; Smith, G. E.
Bosphorite.—Doelter, C., 1.
Bosses, volcanic, Auvergne.—Glangeaud, P., 8.
Bostall Heath (Kent).—Priest, S., 4.
Boston (Massachusetts). — Shimer, H. W., 1.
Botany, Fossil.—Scott, D. H., 1; Seward, A. C., 4.
Botany Bay (N.S.W.).—Andrews, E. C., 10.
Bothriceps.—Broom, R., 8.
Botriopygus.—Clark, W. B., 3.
Botticino Limestone, Lombardy.—Zaccagna, D.
Bou-Laouane (W. Morocco).—Russo, P., 1.
Bouchardia.—Thomson, J. A., 4 & 12.
Bouches-du-Rhone, Dept. (France).—Cossmann, M., 5 & 6; Cottreau, J., 1.
Boulder (Montana).—Billingsley, P., 2 & 3.
——, Norwegian, in Millstone Grit.—Gilligan, A., 1.
Boulder Clay, Essex.—Thompson, P. G.
—— ——, Huddersfield.—Woodhead, T. W.
—— ——, Malay States.—Scrivenor, J. B., 5.
——. *See also* Tillite.
Boulders, in Carboniferous beds, Kansas.—Twenhofel, W. H., 4 & 7.
——, fossiliferous, Block I., U.S.A.—Shimer, H. W., 2.
——, transportation of.—Ahlmann, H. W., 2.
Boulonnais (France). — Sauvage, H. E., 1.
Bounyongia.—Etheridge, G., *fil.*, 10.
Bourguetia.—Trechmann, C. T., 2.
Bourgueticrinus.—Nielsen, K. B., 1 & 2.
Bourne End (Bucks.).—Treacher, Ll., 1.
Bournemouth (Hants).—Bury, H., 2; Campion, H.; Reid, C., 2; White, H. J. O., 2.
Bournes, Croydon.—Latham, B.
——, Hertfordshire.—Hopkinson, J., 3 & 5.
——, Kent.—Leach, A. L., 5 & 10.
Bournonia.—Douvillé, H., 1 & 22.
Bournonite, Utah.—Van Horn, F. R., 1 & 4.
BOUSSAC, J., *Obit.—See* Dollfus, G. F., 15.
Boven Kampar (Sumatra).—Brouwer, H. A., 3.
Bowlingite.—Benson, W. N., 1.
Bowning (N.S.W.).—Mitchell, J., 2.
Bowsey Hill (Berks.).—Treacher, Ll., 2.
Box-stones, Suffolk.—Bell, A., 5 & 7; Boswell, P. G. H., 4.
BOYLE, R., *Obit.—See* Harker, A., 6.
Boysia.—Cockerell, T. D. A., 3.
Braastad R. Valley (Norway).—Braastad, J.
Brabant (Belgium).—Fourmarier, P., 6.
Brachiopoda, Carboniferous.—Clark, T. H.; Day, H., 2; Watson, D. M. S., 6; Weller, S., 1.
——, composition of shells of.—Clarke, F. W., 7.
——, Cretaceous.—Newton, R. B., 9; Odling, M., 2.
——, Devonian.—Dunbar, C. O., 1.
——, foraminal development of.—Buckman, S. S., 2; Thomson, J. A., 4.
——, Jurassic.—Odling, M., 1; Rollier, L., 6–8.
——, morphology.—Jackson, J. W., 1; Thomson, J. A., 1 & 4.
——, nomenclature.—Thomson, J. A., 16 & 17.
——, Ordovician & Silurian.—Braun, E. L.; Reed, F. R. C., 4.
——, Permian.—Molengraaff, G. A. F. 4; Stoyanow, A.
——, Recent & Tertiary, N.Z.—Thomson, J. A., 5 & 8.
——, Tertiary.—Morgan, J. de, 2.
Brachyceratops.—Lambe, L. M., 1.
Brachymetopus.—Girty, G. H., 4; Mitchell, J., 1.
Brachyodus. — Fourtau, R., 5; Stehlin, H. G., 5.
Brachyops.—Broom, R., 8.
Brachyphyllum.—Walkom, A. B., 3 & 5.
Brachyprion.—Savage, T. E., 4.
Brachypsalis.—Sinclair, W. J., 2.
Brachyrhyncha.—Rathbun, M. J., 4.
Brachyspathus.—Wickham, H. F., 3.
Brachysphingus.—Waring, C. A.
Brachythyris.—Weller, S., 1.
Brackley (Northants.). — Walford, E. A., 2.
Bracon.—Cockerell, T. D. A., 22; Meunier, F.
BRADSHAW, C., *Obit.—See* Sheppard, T., 14.
Brain case, of Tetrapoda.—Watson, D. M. S., 4.
Brambridge (Hampshire).—Nicholas, R. E.
Branchioplax.—Rathbun, M. J., 1.
Brandon (Suffolk).—Lovett, E.
—— (Vermont).—Berry, E. W., 20.
Brandshult (Sweden).—Bodman, G.
Brandtite.—Aminoff, G., 10; Doelter, C., 1.

Brandy Gill (Cumberland).—Holmes, A., 13.
Brandywine Formation, U.S.A.—Clark, W. B., 1.
Branta.—Shufeldt, R. W., 2.
Brasenia.—Reid, C., 6; Welsch, J., 1.
Bray Cut (Berkshire).—Bromehead, C. N., 2.
Brazil.—Soper, R. H.
——, coalfields.—Lisboa, A.; Oliveira, E. P. de, 1 & 2.
——, diamond fields.—Crandall, R.
——, iron & manganese ores.—Campos, G. de; Harder, E. C., 1, 2 & 4.
——, minerals.—Betim, A.; Farrington, O. C., 3; Lacroix, A., 7; Rimann, E., 1.
Breccias, Colorado.—Patton, H. B.
——, French Alps.—Kilian, W., 16.
——, Haddingtonshire.—Day, T. C., 3.
——, classification of.—Norton, W. H.
——, Cretaceous, Pyrenees.—Douvillé, H., 30 & 32; Lapparent, J. de, 3.
——, Eogene, Briançonnais.—Kilian, W., 1.
——, fault.—Hœgbom, A. G., 4.
——, gypsiferous, Derbyshire.—Smith, Bernard, 3.
——, Jurassic, California.—Moody, C. L., 2.
——, ossiferous, Italy.—Caterini, F., 3.
——, ——, Kent's Cavern.—Lowe, H. J., 3.
——, Permian, Ferrar, H. T., 1.
——, sedimentary.—Lapparent, J. de, 7.
——, volcanic, Crimea.—Chirvinski, P. N., 3.
Brecciation, of limestone.—Giles, A. W.; Van Tuyl, F. M., 3.
Bremen (Illinois).—Kay, F. H., 3.
Bremer Range (Western Australia).—Honman, C. S., 4.
Bremner dist. (Alaska).—Moffit, F. H., 1.
Brenton (S. Africa).—Schwarz, E. H. L., 1.
Brentwood (Essex).—Boswell, P. G. H., 5.
Breonio (Italy).—Issel, A., 2.
Brescia (Italy).—Zaccagna, D.
Brest Harbour (Brittany).—Vacher, A., 1.
Brestie (Italy).—Fossa-Mancini, E., 4.
Breynella.—Clark, W. B., 3.
Briançonnais (France).—Kilian, W., 1.
Brianza (Italy).—Fossa-Mancini, E., 1.
Brick-earth, East Anglia.—Boswell, P. G. H., 11.
—— ——, Hainault.—Hallez, H., 3.
Bricks, coke-oven.—Fearnsides, W. G., 1.
Bricks, sand-lime.—Middleton, J., 1.
——, silica.—Bied, —; Johns, C.; Le Chatelier, H., 7; Rengade, E.
Bridge R. dist. (B.C.).—Drysdale, C. W., 5 & 7.
Bridger Formation, Rocky Mts.—Johannsen, A., 2.
Bridport (Dorset).—Richardson, L., 8.
Brighton (Sussex).—Brydone, R. M., 1; Martin, E. A., 3.
Brignoles (Var).—Haug, E., 2.
Brindisi (Italy).—Samsonoff-Aruffo, C., 3.
Brine, lake, California.—Hicks, W. B., 3.
—— springs, Italy.—Bongo, F., 2.
—— ——, Manitoba.—Wallace, R. C., 1.
—— ——, Saskatchewan.—Dowling, D. B., 15.
Brines, analysis of.—Sweeney, O. R.
——, Appalachian oilfields.—Richardson, G. B., 3.
——, associated with petroleum.—Popa, D. E.
——, corrosive action of.—Wallace, R. C., 2.
——, potash.—Hicks, W. B., 2.
Briquetting, of coal.—Lesher, C. E., 4.
Brisbane (Queensland), water-supply.—*See* QUEENSLAND, 4.
Brissoides.—Checchia-Rispoli, G., 12; Lambert, J., 3 & 6.
Brissoma.—Lambert, J., 6.
Brissopsis.—Checchia-Rispoli, G., 7; Lambert, J., 3.
Brissus.—Lambert, J., 3.
Bristol coalfield.—Staples, E. H.
—— dist.—Reynolds, S. H., 2, 3, 5 & 7.
—— ——, bibliography.—Livingstone, J. E., 1 & 2.
Britannia mine (B.C.).—McConnell, R. G., 4.
British Association Adv. Sci. 1915, Geology at the.—Carter, W. L.
—— —— —— —— 1916, Geology at the.—Anon., 105.
—— —— —— —— ——, discussion on coal.—Anon., 106.
—— —— —— ——, founding of the.—Harrison, W. H.
—— Columbia.—Allan, J. A., 1; Bancroft, M. F.; Clapp, C. H., 1–8; Daly, R. A., 4; Dolmage, V., 1 & 2; McConnell, R. G., 1–4; MacKenzie, J. D., 2 & 4–8; Reinecke, L., 1, 2 & 5; Schofield, S. J., 1–4.
—— ——, building stone.—Parks, W. A., 1.
—— ——, Cambrian.—Burling, L. D., 1 & 3; Walcott, C. D., 7.
—— ——, clays.—Ries, H., 2 & 3.
—— ——, coalfields.—Robertson, W. F., 1; Rose, B., 5 & 7.
—— ——, glaciation.—Tyrrell, J. B., 12.

British Colombia, iron ores.—Stansfield, A., 2.
—— ——, limestone.—Cairnes, D. D., 4.
—— ——, mineral production.—Robertson, W. F., 2 & 3.
—— ——, minerals.—Brock, R. W., 1 & 2; Camsell, C., 1, 4 & 10–12; Dowling, D. B., 2, 5 & 6; Drysdale, C. W., 1–7; Graham, R. P. D., 4; Jenkins, O. P., 1; O'Neill, J. J., 3 & 4; Phillips, A. H., 1 & 2; Uglow, W. L., 3; Unstead, J. F.; Walker, T. L., 3; Warren, C. H., 4.
—— ——, mining in.—Brewer, W. M., 1–14; Galloway, J. D., 1–10; Tyrrell, J. B., 11; *see also* British Columbia, 1–5.
—— ——, Miocene fish remains from.—Hussakof, L., 2.
—— —— (Central).—Thomson, R. W.
—— —— (Eastern).—Langley, A. G.
—— —— (North-Western).—Clothier, G. A.
—— —— (Southern).—Freeland, P. B.
—— East Africa.—*See* East African Protectorate.
—— Empire, mineral resources.—Frecheville, W.
—— Guiana, minerals.—*See* British Guiana, 1–6, 11 & 12.
—— Museum, carnivorous Theraspids in the.—Broom, R., 6.
—— ——, Cretaceous plants in the.—Stopes, M. C., 2.
—— New Guinea.—*See* Australia, 2.
Brittany, iron ores.—Cayeux, L., 7.
——, soils, Vincent, C., 2.
Broad Pass dist. (Alaska).—Moffit, F. H., 2.
Broadback R. (Quebec).—Cooke, H. C., 2 & 3.
Brocchia.—Cerulli-Irelli, S., 1.
Brocchinia.—Harmer, F. W., 2.
Brockocystis.—Williams, M. Y., 11.
Brodia.—Bolton, H., 4.
Bröggeria.—Kolderup, C. F., 6; Nathorst, A. G., 2.
Broken Hill (N.S.W.).—Anderson, C., 1; Horwood, E. J.; Moore, E. S., 3; Shannon, E. V., 1; Wainwright, W. E.
—— —— (N. Rhodesia).—Speak, S. J.
Brome County (Quebec).—Harvie, R., 2.
Brominated waters, Pyrenees.—Garrigou, F., 1.
Bromine, in lake water.—Cooke, W. T., 2.
——, in oilfield brines.—Popa, D. E.
Bronteidæ, Silurian.—Etheridge, R., *fil.*, 10.
Bronteus.—Etheridge, R., *fil.*, 10; Gortani, M., 3.
Bronze, in Cornwall.—Reid, C., 3.
Broomia.—Watson, D. M. S., 1.
Brörup (Denmark).—Jessen, A., 5.
Brosso (Italy).—Artini, E., 4.
Brosteni & Brostenite (Roumania).—Butureanu, V. C.
Brotomys.—Miller, G. S., 2.
Brown, A. P., *Obit.*—*See* Anon., 10; Penrose, R. A. F., *fil.*, 2; & Stone, W.
Brown, C. B., *Obit.*—*See* Anon., 11; Brown, C. B., *fil.*; & Harker, A., 4.
Brown coal.—*See* Lignite.
Bruche Valley (Alsace).—Lapparent, J. de, 6 & 7.
Bruchus.—Wickham, H. F., 3.
Bruckmoser, J., *Obit.*—*See* Anon., 12.
Brufjeld (Norway).—Danielsen, D., 1.
Bruguiereia.—Prever, P. L.
Brun, cave of (Italy).—Gregorio, A. de, 6.
Brunlechner, A., *Obit.*—*See* Anon., 13.
Bruno, C., *Obit.*—*See* Sacco, F., 2.
Brunswickia.—Wherry, E. T., 10.
Bruny I. (Tasmania).—Wade, A., 2.
Brusson (Piedmont).—Reinhold, T.
Bryograptus.—Hall, T. S., 4.
Bryozoa.—*See* Polyzoa.
Bubo.—Shufeldt, R. W., 2.
Bucania.—Mansuy, H., 2.
Bucanopsis.—Branson, E. B., 5; Girty, G. H., 1.
Buccinum.—Harmer, F. W., 2.
Buchiceras.—Luethy, J.
Buckingham dist. (Quebec).—Wilson, M. E., 1–3.
Buckinghamshire.—Davies, A. M., 2 & 3.
Bucklandia.—Reid, C., 6.
Budenheim (Hesse).—Roman, F., 1.
Budgery & Budgerygar mines (N.S.W.).—Andrews, E. C., 2.
Buenavista I. (Mexico).—Almazán, C.
Buenos Aires, Prov. (Argentina).—Gibson, E.; Roth, S.; Torres, L. M.
Buffalo R. (Victoria).—Dunn, E. J., 12.
Buffelus.—Matsumoto, H., 1.
Bufo.—Camp, C. L.
Building materials, Canada.—Parks, W. A., 1.
—— ——, Lancashire.—Parker, R.R.
—— ——, New York.—Newland, D. H., 1 & 2.
—— ——, North Wales.—P. ——, S. M.
—— ——, Northampton.—Thompson, B., 2.
—— ——, Norway.—Oxaal, J., 1–3, 5 & 6.
—— ——, Queensland.—Richards, H. C., 2.
—— ——, Scotland.—Holmgren, J.
—— ——, Travancore.—Chacko, I. C., 3.
—— ——, Victoria.—Baragwanath, W., 6 & 7.

Building materials, Western Australia.—*See* Western Australia, 10.

—— ——, chemistry & physics of.—Munby, A. E.

—— ——, production of.—Loughlin, G. F., 3.

Buildings, earthquakes &.—Neumann, M. M. N.; Omori, F., 4 & 5.

Bukowina (Hungary).—Scott, H. K.

Bulandet Is. (Norway).—Kolderup, C. F., 8.

Bulimina.—Chapman, F., 18; Udden, J. A., 3.

Bulimorpha.—Branson, E. B., 5; Girty, G. H., 1.

Bulimulus.—Dall, W. H., 2.

Bulkley Valley (B.C.).—Galloway, J. D., 9.

Bull Lake Creek (Wyoming).—Branson, E. B., 4.

Bulla (Victoria).—Patton, R. T.

Bulla.—Anderson, F. M.; Ravn, J. P. J., 5.

Buller-Mokihinui dist. (N.Z.).—Morgan, P. G., 9.

Bullinella.—Cossmann, M., 1.

Bully Hill (California).—Boyle, A. C., *fil.*

Bulong (Western Australia).—Feldtmann, F. R., 4; 4; Honman, C. S., 2.

Bultfontein (S. Africa).—Van der Lingen, J. S.

Bulusan, Volcano (Philippine Is.).—Goldsberry, J. P.

Bumastus.—Parks, W. A., 2; Raymond, P. E., 4; Slocom, A. W.

Bumelia.—Matson, G. C., 3.

Bunaia, Bunodes.—Clarke, J. M., 11.

Bunophorus.—Sinclair, W. J., 1.

Bunter, Cheshire.—Rhodes, J. E. W., 1.

——, Nottinghamshire.—Burton, T. H.

——, Staffordshire.—Cockin, G. M.

Burdekin (Queensland).—Etheridge, R., *fil.*, 6.

Burdigalian, S.-W. France.—Canu, F., 4.

Burgessia.—Walcott, C. D., 11.

Burght (Belgium).—Depéret, C., 3.

Burgos, Prov. (Spain).—Gutiérrez, P. M.; Lozano, R. S., 1.

Burgsvik (Gotland).—Munthe, H., 2.

Burgundia.—Dehorne, Y., 3.

Burley (Yorks.).—Armstrong, A. L.

Burlington Limestone, Missouri.—Tarr, W. A., 3.

Burma, earthquakes in.—Brown, J. C., 3.

——, Eocene mammalia.—Pilgrim, G. E., 9.

——, fossil wood.—Holden, R.

——, Jurassic brachiopoda.—Buckman, S. S., 1 & 4.

——, limestone caves.—Annandale, N., 2.

Burma, material resources.—Adamson, Sir H.

——, minerals.—Brown, J. C., 6, 8, 9 & 11; Chater, C. W.; Griffiths, H. D., 2 & 3; Hoffmann, J. D.

——, Pleistocene gastropoda. Annandale, N., 1.

Burmese amber, insects in.—Cockerell, T. D. A., 9 & 16.

Burmesia.—Mansuy, H., 1.

Burmirhynchia.—Buckman, S. S., 4.

Burmitempis.—Cockerell, T. D. A., 16.

Burnie (Tasmania).—Boyd, A. A.

Burnotian, Belgium.—Anthoine, R., 4; Cornet, J., 4; Dorlodot, L. de.

Burnt Hill (New Brunswick).—Cairnes, D. D., 9; Young, G. A., 2.

Burrinjuck (N.S.W.).—Cotton, L. A., 1.

Burro Mts. (New Mexico).—Somers, R. E.

Burrum Series, Queensland.—Walkom, A. B., 5.

Bursa.—Clark, B. L., 5; Dall, W. H., 5; Dickerson, R. E., 5; Waring, C. A.

Burton, R. C., *Obit.*—*See* Harker, A., 4; & Hayden, Sir H. H., 6.

Burton-on-Trent (Staffs.).—Brown, E.

Burton-Bradstock dist. (Dorset).—Richardson, L., 4 & 9.

Busambra (Sicily).—Gregorio, A. de, 7.

Bushey Grove (Herts.).—Kidner, H., 2.

—— Heath (Middlesex).—Barrow, G., 6.

Bushmanland (S. Africa).—Haughton, S. H., 2; Rogers, A. W., 4.

Busseto (Italy).—Vinassa de Regny, P., 2.

Busycon.—Dall, W. H., 2; Wade, B., 1.

Bute, I. of (Scotland).—Smellie, W. R., 2–4.

Buthotrephis.—Gregory, J. W., 28; Williams, M. Y., 11.

Butte (Montana).—Atwood, W. W., 2; Bard, D. C.; Febles, J. C.; Linforth, F. A.; Sales, R. H.; Thompson, A. P.

—— (—), water-supply.—Meinzer, O. E., 2.

Bythocypris.—Chapman, F., 3, 16 & 18; Hede, J. E., 3.

Bythopora.—Cumings, E. R., 2.

Cabo Mondego (Portugal).—Gomes, J. P.

Căciulata (Roumania).—Damian, G. A.

Cacaclasite.—Bowen, N. L., 8.

Cacoxenite.—Doelter, C., 1; Koechlin, R., 2.

Caddo oil- & gasfield (Louisiana).—Matson, G. C., 2.

Cader Idris (Wales).—Cox, A. H., 8.

Caderechas (Spain).—Gutiérrez, P. M.
Cadimare (Liguria).—Crema, C., 3.
Cadiz, Prov. (Spain).—Gavala, J.; Gentil, L., 10 & 11.
Cadiz Quadrangle (Ohio).—Condit, D. D., 1.
Cadmium, production of.—Siebenthal, C. E., 4.
Cadoceras.—Krenkel, E.
Cadulus.—Ravn, J. P. J., 5.
Caen (Normandy).—Bigot, A., 1.
Cæsium, extraction of.—Browning, P. E.
Cagliari (Sardinia).—Bariola, R., 2.
Cagnano Varano (Italy).—Crema, C., 1.
Caimanoidea.—Mehl, M. G., 4.
Caimba (Mexico).—Casillas y Cruz, S., 1.
Cairnes, D. D., *Obit.*—*See* Camsell, C., 9.
Caithness (Scotland).—Sutherland, A.
Calabona (Sardinia).—Manasse, E., 4.
Calabria (Italy).—Chelussi, I; Dolomieu, D. de, 1; Onetti, A.; Stefani, C. de, 9.
Calabrian stage, Apennines.—Gignoux, M., 1.
Calambayanga I. (Philippines).—Pratt, W. E., 6.
Calamine, Utah.—Van Horn, F. R., 1.
Calamites.—Arber, E. A. N., 1 & 7; Jongmans, W.; Stopes, M. C., 1.
Calamitina.—Jongmans, W.
Calamophloios.—Arber, E. A. N., 1.
Calamopitys.—Scott, D. H., 7 & 9.
Calamops.—Sinclair, W. J., 3.
Calamopteris.—Scott, D. H., 9.
Calamostachys.—Stopes, M. C., 1.
Calapella.—Rathbun, M. J., 4.
Calapœcia.—Savage, T. E., 4.
Calappa.—Rathbun, M. J., 4.
Calcarina.—Newton, R. B., 5; Rutten, L., 2.
Calceolispongia.—Etheridge, F., *fil.*, 1.
Calcirhynchia.—Buckman, S. S., 4.
Calcite.—Aminoff, G., 1 & 7; Flink, G., 1; Quercigh, E., 3.
——, Antrim.—Smith, G. F. H., 1.
——, Euganean Hills, Italy.—Billows, E.
——, Harz Mts.—Viola, C., 3.
—— Japan.—Ichikawa, S., 4.
——, curved surfaces on.—Aminoff, G., 5.
——, etch figures of.—Ichikawa, S., 2.
——, in fossil shells.—Meunier, S., 15 & 17.
——, in granite.—Grenouillet, W.
——, lattice-like inclusions in.—Graham, R. P. D., 3.
——, paragenesis of.—Greenwood, H. W., 1.
——, phosphorescent.—Pisani, F.
——, replacement of wood by.—Greenland, C. W.
——, with rutile.—Bianchi, A., 2.
Calcite, in silicified wood.—Wherry, E. T., 11.
——, solubility of.—McClendon, J. F.; Wells, R. C., 2.
——, twinning of.—Aminoff G., 2; Becke, F., 1.
——, weathering of.—Bartrum, J. A., 4.
Calcite group.—Ford, W. E., 5.
Calcite-Brucite rocks, origin of.—Rogers, A. F., 8.
Calcium, in rare earths.—Zambonini, F., 2 & 5.
Calcium carbonate, Bacteria & deposition of.—Kellerman, K. F.
—— ——, evolution of Polyzoa &.—Lang, W. D., 3.
—— ——, forms of.—Johnston, J., 7.
—— ——, inorganic deposition of.—Johnston, J., 6.
—— ——, solubility of.—Johnston, J., 1 & 5.
—— orthosilicate, calculation of, in igneous rocks.—Washington, H. S., 3.
—— phosphate, in meteorites.—Merrill, G. P., 8.
Calcoferrite.—Doelter, C., 1.
Caldey I. (Pembrokeshire).—Leach, A. L., 1 & 6.
Caldon Low (Staffs.).—Jackson, J. W., 7.
Caledonia dist. (Nova Scotia).—Faribault, E. R., 3.
Caledonian thrust zone, Brabant.—Fourmarier, P., 6.
—— —— ——, Sweden.—Frœdin, G., 5.
California (U.S.A.).—Eakle, A, S. 1 & 2; English, W. A., 1 & 2; Hawley, H. J.; Waring, G. A., 2.
—— (—), iron ores.—Jones, C. C., 2.
—— (—), lake brines.—Hicks, W. B., 3.
—— (—), Mesozoic & Tertiary faunas.—Anderson, F. M.; Clark, B. L., 1–5; Davis, E. F.; Dickerson, R. E., 1–3, 6 & 9–12; Douvillé, H., 6; Kew, W. S. W., 1 & 2; Martin, B.; Merriam, J. C., 2, 5, 6, 8, 9, 14 & 15; Moody, C. L., 1 & 2; Nomland, J. O., 1–6; Packard, E. L., 1 & 2; Rathbun, M. J., 3; Waring, C. A.
—— (—), minerals & ore deposits.—Alling, M. N.; Boyle, A. C., *fil.*; Ferguson, H. G., 1 & 2; Graton, L. C., 1 & 2; Heberlein, C. A.; Hill, J. M., 1; Larsen, E. S., 1; Rogers, A. F., 1 & 7–10; Tolman, C. F., 3; Wright, F. E., 9.
—— (—), petroleum & coal.—Anderson, R.; Pack, R. W., 2–4.
—— (—), Pleistocene flora.—Knowlton, F. H., 2.
—— (—), production of metals in.—Yale, C. G.

California (U.S.A.), salt deposits.—Gale, H. S., 1.
—— (—), Trias.—Smith, J. P.
—— (—), water-supply. — Clark, W. O.; McGlashan, H. D.; Mendenhall, W. C.; Waring, G. A., 1; Wood, B. D.
——, Lower (Mexico).—Galvez, V., 3 & 6; Heim, Arn., 1.
Callavia.—Walcott, C. D., 11.
CALLAWAY, C., *Obit.*—*See* Richardson, L., 7; & Woodward, A. S., 8.
Calle, La (Algeria).—Depéret, C., 8.
Callianassa.—Etheridge, R., *fil.*, 6; Rathbun, M. J., 4.
Calliasterella.—Schuchert, C., 2.
Callidium.—Wickham, H. F., 3.
Callie Soak, Murchison G. F. (Western Australia).—Robertson, A. J.
Callinectes.—Rathbun, M. J., 4.
Calliostoma.—Anderson, F. M.; Bell, A., 5; Clark, B. L., 1 & 5; Cerulli-Irelli, S., 2; Cossmann, M., 5; Dall, W. H., 2; Greco, B., 3; Marshall, P., 13; Nomland, J. O., 2.
Callista.—Cossmann, M., 5.
Callocardia.—Clark, B. L., 5; Dall, W. H., 2.
Callonema.—Savage, T. E., 4; Stauffer, C. R., 5.
Callorhynchus.—Leriche, M., 6.
Callovian, E. France.—Joly, H.; Steinmann, G., 5.
——, Portugal.—Lambert, J., 2.
Calocarpum.—Berry, E. W., 2.
Calomel, crystals of.—Cesàro, G., 6.
Calopteryx.—Meunier, F.
Calorific value, of coal, in relation to ash-yield.—Drakeley, T. J., 3.
—— ——, of mineral fuels.—Sollied, P. R.
Calorimeters, design & efficiency of.—White, W. P., 1 & 2.
Calvados (Normandy). — Nicolesco, C., 1 & 2; Termier, P., 10.
Calvinia.—Savage, T. E., 4.
Calyculina.—Odhner, N. H., 2.
Calymene.—Chapman, F., 5; Etheridge, R., *fil.*, 10; Gortani, M., 3; Hede, J. E., 3; Raymond, P. E., 4; Reed, F. R. C., 3; Savage, T. E., 4; Slocom, A. W.; Walcott, C. D., 9; Williams, M. Y., 11.
Calymenidæ, Silurian. — Etheridge, R., *fil.*, 10.
Calyptoblastea, Palæozoic. — Chapman, F., 35.
Calyptrœa. — Cerulli-Irelli, S., 1; Chapman, F., 16; Clark, B. L., 1.
Calyptræidæ, Pliocene. — Cerulli-Irelli, S., 1.
Calyptranthes.—Berry, E. W., 18.
Cam R. (Cambs.).—Lake, P.
Camarasaurus.—Mook, C. C., 1.
Camarella.—Reed, F. R. C., 4.
Camarines, Prov. (Philippine Is.).—Pratt, W. E., 5 & 6.
Camarocladia.—Gregory, J. W., 28.
Camarophorella.—Weller, S., 1.
Camarophoria.—Clark, T. H.; Diener, C.; Garwood, E. J., 1; Girty, G. H., 4; Grœnwall, K. A., 6; Weller, S., 1.
Camarotœchia.—Garwood, E. J., 1; Girty, G. H., 2; Reed, F. R. C., 4; Savage, T. E., 4; Weller, S., 1; Williams, M. Y., 11.
Camasia.—Walcott, C. D., 2.
Cambodgia.—Mansuy, H., 2.
Camborne (Cornwall).—Maclaren, M.
Cambrai (France).—Dollé, L., 2.
Cambria (California). — Heberlein, C. A.
Cambrian, Alberta.—Walcott, C. D., 8.
——, Arizona.—Schuchert, C., 13.
——, Australia.—Etheridge, R., *fil.*, 5.
——, Belgium.—Fourmarier, P., 3.
——, British Columbia.—Walcott, C. D., 7.
——, Canada (E.).—Matthew, G. F., 1 & 2.
——, —— (W.).—Burling, L. D., 1.
——, Carnarvonshire. — Nicholas, T. C., 1 & 2.
——, France (W.).—Kerforne, F., 3.
——, French Guinea.—Sinclair, J. H., 2.
——, Montana.—Walcott, C. D., 4 & 7.
——, Morocco.—Lecointre, G., 7.
——, Newfoundland.—Dale, N. C.
——, N. America.—Walcott, C. D., 2–9 & 12.
——, Norway.—Braastad, J.; Holtedahl, O., 4.
——, Rocky Mountains.—Walcott, C. D., 6.
——, Sardinia.—Termier, P., 1.
——, Shropshire.—Cobbold, E. S., 1.
——, South Australia.—Chapman, F., 30; Howchin, W., 1 & 2.
——, Spain. — Hernandez-Pacheco, E., 3 & 4.
——, Sweden.—Grœnwall, K. A., 5; Troedsson, G. T.; Wiman, C., 10.
——, Tonkin.—Deprat, J., 6; Mansuy, H., 3.
——, Vermont.—Dale, T. N., 2.
——, Victoria.—Chapman, F., 22 & 23.
——, Virginia.—Watson, T. L., 4.
——, Warwickshire.—Cobbold, E. S., 2; Illing, V. C., 1.
——, Wyoming.—Blackwelder, E., 2.
——, Yunnan.—Deprat, J., 12 & 17.
——, stratigraphy & palæontology.—Illing, V. C., 2.
——, trails in the.—Burling, L. D., 4.
Cambridge (England).—Kingston, A.; Marr, J. E., 4 & 6.
Cambro - Ordovician, Virginia. — Powell, S. L.
Cambro-Silurian, Belgium. — Maillieux, E., 2; Malaise, C., 1.
Camel, Oligocene.—Troxell, E. L., 6.

Camelidæ, affinities & phylogeny.—Matthew, W. D., 9.
Camelopardalis.—Pavlow, M., 1.
Camelops.—Hay, O. P., 1 & 8.
Camerano, L., *Obit.*—*See* Parona, C. F., 12.
Cameroceras.—Reed, F. R. C., 3.
Cameroon (W. Africa).—Lacroix, A., 67.
Camp Grant (Illinois).—Salisbury, R. D., 2.
Camp Moreton (Spitsbergen).—Galloway, W., 1.
Campagna (Rome).—Geikie, Sir A., 1; Ossat, G. de A. d', 1.
Campanani (Chile).—Ossa, I. D., 3.
Campania (Italy). — Cassetti, M., 2.
Campanile.—Douvillé, H., 22; Leriche, M., 3.
Campeloma.—Cockerell, T. D. A., 5.
Campichia.—Sayn, G., 2.
Campine coalfield (Belgium). — Krusch, P.
Campo a Peri (Elba).—Comucci, P., 3.
Campodus.—Branson, E. B., 3.
Campofelice (Sicily).—Gregorio, A. de, 5.
Campsie (Stirling).—Bather, F. A., 12; Ferguson, D., 2; Gregory, J. W., 9.
Camptonectes.—Paris, E. T.
Camptonite dykes, Finland.—Hackman, V., 2.
Camptotheca.—Reid, C., 6.
Campylostoma.—Rathbun, M. J., 2.
Canada.—Bigot, A., 2.
——, analyses of fuels in.—Stansfield, E., 4.
——, Arctic coast of.—O'Neill, J. J., 1 & 2.
——, Bibliography.—Malcolm, W., 2–4.
——, building & ornamental stones.—Parks, W. A., 1.
——, clay & shale deposits.—Keele, J., 1–5; Ries, H., 2 & 3.
——, coalfields.—Dowling, D. B., 5; Porter, J. B.; Pruvost, P., 3.
——, gypsum in.—Cole, L. H., 1.
——, iron ore deposits.—Lindeman, E.
——, mineralogy in.—Merciai, G.
——, mineral production.—McLeish, J., 1–5.
——, —— resources.—Bell, J. M.; Cadell, H. M., 2; Johnston, R. A. A., 1; McLeish, J., 6; Smith, W. H.
——, —— springs.—Elworthy, R. T., 2; Satterly, J., 1.
——, molybdenum ores.—Mackenzie, G. C.
——, non-metallic minerals.—Fréchette, H.
——, peat deposits & industry.—Anrep, A., 1 & 2.
Canada, petroleum & natural gas.—Campbell-Johnston, R. C., 1; Clapp, F. G., 4; Miller, W. G., 1.
——, phosphate deposits. — Adams, F. D., 6.
——, platinum in.—O'Neill, J. J., 5.
——, radioactivity of gases in.—Satterly, J., 2.
——, road materials—Reinecke, L., 3–4 & 6–10.
——, salt deposits.—Cole, L. H., 2.
——, sandstones.—Cole, L. H., 3.
——, science & industry in.—McLennan, J. C.
—— (Central), goldfields.—Tyrrell, J. B., 5.
—— (Eastern), Cambrian.—Matthew, G. F., 1 & 2.
—— (——), coalfields.—Gray, F. W.
—— (——), mining of thin coal seams in.—Brown, J. F. K.
—— (——), radioactive minerals.—Robinson, C. W.
——. *See also* Canada.
Cañadas, Las (Teneriffe).—Navarro, L. F., 3.
Canadia.—Walcott, C. D., 11.
Canadian Shield, the.—Horne, J., 2.
Canary Is. *See* Gomera, Teneriffe, Cañadas.
Canavese zone, N. Italy.—Henny, G., 3; Lugeon, M., 10; Novarese, V., 1 & 2.
Canbelego mine (N.S.W.).—Andrews, E. C., 2.
Cancellaria. — Anderson, F. M.; Clark, B. L., 1 & 5; Dall, W. H., 2; Dickerson, R. E., 6; Martin, K.; Moody, C. L., 1; Nomland, J. O., 5; Waring, C. A.
Cancer.—Dickerson, R. E., 6; Rathbun, M. J., 3.
Cancrinite.—Doelter, C., 2; Flink, G., 4; Larsen, E. S., 2.
——, non-existence of, at Monte Somma.—Cesàro, G., 11; Zambonini, F., 10.
Candas (Somme).—Commont, V., 4.
Caneyella.—Girty, G. H., 2.
Cania (Queensland). — Cameron, W. E., 4.
Caninia.—Delépine, G., 1; Garwood, E. J., 1; Parsons, L. M., 1; Vaughan, A., 1.
Caninia-Seminula horizon, Leicestershire.—Hind, W., 2.
Canis.—Campana, D. del, 6; Hay, O. P., 1; Merriam, J. C., 14; Stock, C., 5; Troxell, E. L., 1.
Cannel coal, Gt. Britain.—Strahan, Sir A., 16.
Cannonball R. (N. Dakota).—Lloyd, E. R., 1 & 2.
Canso Strait (Nova Scotia).—Hyde, J. E., 1.
Cantal (France).—Dollfus, G. F., 17; Gonnard, F., 1; Lacroix, A., 41.

Canterbury, Prov. (N.Z.).—Gudex, M. C.; Speight, R., 1 & 4–10; Thomson, J. A., 18; Wild, L. J., 5.

Cantharus.—Dall, W. H., 2; Dickerson, R. E., 5.

Cantia.—Stopes, M. C., 2.

Canton Quadrangle (Illinois).—Savage, T. E., 2 & 5.

—— —— (New York).—Martin, J. C.

CANTORE, A., *Obit.*—*See* Issel, A., 1.

Cantwell Formation, Alaska.—Pogue, J. E., 1.

Canyon (Yukon Terr.).—Cairnes, D. D., 8.

Canyon Diablo (Arizona).—Meunier, S., 9 & 12.

Canyon Range (Utah).—Loughlin, G. F., 1.

Cao-bang (Tonkin).—Deprat, J., 15.

Cap rock, Gulf Coast salt domes.—Golyer, E. de, 4.

Cape Breton (Nova Scotia).—Brown, R.; McIntosh, D. S, 2; Woodward, H., 6; Wright, W. J., 2.

Cape Province (S. Africa).—Maury, C. J., 1; Wagner, P. A. 6.

—— ——, pre-Carboniferous glacial deposits.—Cloos, H., 2.

Cape Sorell (Tasmania).—Hills, L., 1.

Cape York Peninsula (Queensland).—Jack, R. Logan.

Capillarity, in crystals.—Gregorio, A. de, 7.

——, oil accumulation &.—McCoy, A. W., 1; Washburne, C. W., 4.

Capillirhynchia.—Buckman, S. S., 4.

Capiluna.—Newton, R. B., 1.

Capitanata (Italy).—Cassetti, M., 1; Checchia-Rispoli, G., 2, 4–8, 9 & 15.

Capitosaurus.—Wiman, C., 1.

Capolago Mt. (Carnic Alps).—Gortani, M., 3; Vinassa de Regny, P., 3.

Cappelenite.—Doelter, C., 2.

Capridæ, Pleistocene.—Harlé, E., 2.

Capromeryx.—Chandler, A. C., 1.

Capromys.—Allan, G. M., 2.

Captorhinus.—Watson, D. M. S., 4.

Capougilar *or* Capudjlar (Macedonia).—Nelli, B., 1; Campana, D. del, 7 & 8.

Capulidæ, Pliocene.—Cerulli-Irelli, S., 1.

Capulus.—Cerulli-Irelli, S., 1; Cossmann, M., 1; Diener, C.; Dunlop, R., 2.

Carabus.—Wickham, H. F., 2.

Caractacaster.—Spencer, W. K., 1.

Caramoan Peninsula (Philippine Is.).—Pratt, W. E., 5.

Carapa.—Berry, E. W., 10.

Carbon, in auriferous cyanide solutions.—Feldtmann, W. R., 1.

——, detection of, in powdered rock.—Anten, J., 2.

Carbon, in pyritic nodules.—Anon., 103.

—— compounds, in volcanic exhalations.—Sabot, R. C., 2.

Carbonaceous beds, Permian, French Jura.—Bourgeat, l'Abbé, 7.

—— ——, Sweden.—Grœnwall, K. A., 5.

—— ——, Switzerland.—Lugeon, M., 9; Schlæpfer, P.

—— mineral, in calcite.—Anderson, C., 2.

Carbonates, rhombohedral.—Gaubert, P., 9.

Carbonic acid, Etna.—Platania, G., 2.

—— ——, in natural waters.—Prideaux, E. B. R.

Carbonicola.—Bolton, H., 1; Pruvost, P., 2.

—— beds, Belgium.—Cambier, R.

Carboniferous, Arizona.—Schuchert, C., 12.

——, Arkansas.—Girty, G. H., 2–4.

——, Asturias.—Termier, P., 6.

——, Australia.—Gregory, J. W., 35; Mitchell, J., 1.

——, Auvergne.—Glangeaud, P., 10.

——, Ayrshire.—Carruthers, R. G., 8.

——, Bachant.—Carpentier, A., 1.

——, Belgium.—Bergeron, J., 3; Delépine, G., 1; Renier, A., 3 & 4; Stainier, X., 2–6 & 8.

——, —— & England.—Vaughan, A., 1.

——, Clyde Basin.—Tyrrell, G. W., 9.

——, Commentry.—Bolton, H., 3; Lameere, A.; Tillyard, R. J., 9.

——, Derbyshire.—Day, H., 3; Jackson, J. W., 5 & 6; Sargent, H. C., 3.

——, Dublin.—Smyth, L. B.

——, East Lothian.—Gordon, W. T., 1 & 2.

——, Edinburgh.—Tait, D., 2.

——, Fifeshire.—Dunlop, R., 2; Wright, J., *fil.*, 1 & 2.

——, Forest of Dean.—Sibly, T. F., 1.

——, France (N.).—Barrois, C., 3; Bertrand, P., 1–10; Delépine, G. 2 & 3; Pruvost, P., 2 & 5–8.

——, Gloucestershire.—Reynolds, S. H., 6.

——, Great Britain.—Hind, W., 1; Kidston, R., 1–5.

——, Greenland.—Grœnwall, K. A., 6.

——, Haddingtonshire.—Gordon, W. T., 2.

——, Isle of Elba.—Stefani, C. de, 4.

——, Isle of Man.—Bather, F. A., 11.

——, Kentucky.—Scott, D. H., 9.

——, Lanarkshire.—Carruthers, R. G. 2 & 3.

——, Lancashire.—Garwood, E. J., 1; Wilmore, A., 1.

——, Laos States.—Mansuy, H., 1.

——, Leicestershire.—Hind, W., 2; Parsons, L. M., 1 & 2.

——, Mississippi Valley.—Weller, S., 1.

Carboniferous, New Brunswick.—Stopes, M. C., 1; Wilson, W. J.

——, New South Wales.—Aurousseau, M., 1.

——, Normandy.—Termier, P., 10.

——, Nova Scotia.—Woodward, H., 6.

——, Ohio.—Case, E. C., 4; Lamb, G. F.; Moodie, R. L., 4; Verwiebe, W. A., 2.

——, Oklahoma.—Girty, G. H., 1.

——, Pennsylvania. — Verwiebe, W. A., 2.

——, Portugal.—Pruvost, P., 4.

——, Renfrewshire.—Carruthers, R. G., 8; Ferguson, D., 1.

——, Rhode Island.—Ashley, G. H., 1.

——, Rocky Mountains.—Clark, T. H.

——, Scania.—Mœller, H.

——, Scotland.—Cadell, H. M., 1; Ferguson, D., 2; Gregory, J. W., 32; Macnair, P., 2–8.

——, Shropshire.—Barke, F.; Parsons, L. M., 3.

——, Siam.—Reed, F. R. C., 1.

——, Somerset.—Dixey, F., 1; Reynolds, S. H., 4, 6 & 7.

——, S. Wales.—Dixey, F., 2.

——, Southern Hemisphere.—Chapman, F., 32; Kitson, A. E., 3; Skeats, E. W., 7; Watson, D. M. S., 9.

——, Staffordshire (S.).—Bolton, H., 4.

——, Stirlingshire.—Bather, F. A., 12.

——, Tonkin.—Mansuy, H., 1.

——, United States.—Ulrich, E. O., 1 & 2.

——, Victoria.—Chapman, F., 21; Ferguson, W. H., 1.

——, Western Australia.—Etheridge, R., *fil.*, 1.

——, Westmoreland.—Bauer, G. M.; Garwood, E. J., 1.

——, Wyoming.—Branson, E. B., 3 & 5.

——, Yorkshire.—Woodward, A. S., 10.

—— algal deposits. — Twenhofel, W. H., 8.

—— plant tissue.—Barbour, E. H., 2.

——. *See also* Coalfields, &c.

Carboniferous-Permian unconformity, Western N. America.—Lee, W. T., 4.

Carborundum, optical properties of.—Merwin, H. E., 2.

Carcassonne (France).—Depéret, C., 1.

Carcharias.—Llueca, F. G.; Priem, F., 1.

Carcharodon.—Llueca, F. G.; Merriam, J. C., 6; Pieragnoli, L.; Priem, F., 1 & 4; Stefano, G. de, 4.

Carcharoides.—Chapman, F., 7.

Carcinophyllum.—Delépine, G., 1; Garwood, E. J., 1; Smyth, L. B.

Cardiaster.—Clark, W. B., 3.

Cardiff (S. Wales).—North, F. J., 2 & 3; Priestley, C. H.

Cardinia.—Fucini, A.; Mansuy, H., 1; Onetti, A.

Cardiocarpon.—Stopes, M. C., 1.

Cardiocarpus.—Arber, E. A. N., 1.

Cardioceras.—Krenkel, E.

Cardiograptus.—Harris, W. J.

Cardiola.—Hede, J. E., 2 & 3.

Cardiomorpha.—Fuchs, A.; Girty, G. H., 4; Trechmann, C. T., 2.

Cardiophorus.—Wickham, H. F., 1.

Cardiopteridium.—Antevs, E., 10.

Cardisoma.—Rathbun, M. J., 4.

Cardita.—Chapman, F., 16; Cossmann, M., 5; Dall, W. H., 2; Dickerson, R. E., 9; Fourtau, R., 4; Martin, K.

Cardium.—Anderson, F. M.; Bell, A., 5; Clark, B. L., 1 & 5; Cossmann, M., 1 & 5; Dall, W. H., 2; Dickerson, R. E., 5 & 9; Fourtau, R., 4; Greco, B., 4; Llueca, F. G.; Marshall, P., 13; Martin, K.; Nœrregaard, E. M., 1; Spitz, A., 1; Waring, C. A.

Cardowan (Queensland).—Ball, L. C., 14 & 15.

Cardross (Queensland).—Ball, L. C., 11.

Carduus.—Reid, C., 6.

Caresas-Fresnedo anticline, Asturias.—Termier, P., 8.

Carex.—Reid, C., 6.

Cargo goldfield (N.S.W.).—Andrews, E. C., 3.

Cariboo dist. (B.C.).—Galloway, J. D., 1; Tyrrell, J. B., 11.

Carinaropsis.—Chapman, F., 6.

Carinthia.—Penny, F. W.

Carlinville oilfield (Illinois).—Kay, F. H., 1.

Carlyle oilfield (Illinois). — Shaw, E. W., 3.

Carminite.—Doelter, C., 1.

Carnarvonshire. — Dewey, H., 6; Hughes, E. W.; Nicholas, T. C., 1 & 2; Sherlock, R. L., 5.

Carnivora.—Helbing, H.; Matthew, W. D., 11; Pavlow, M., 2.

——, dentition.—Neuville, H., 1.

Carnotite.—Parsons, C. L.; Plum, H. M.; Schlundt, H., Wherry, E. T., 1.

Carolina, North (U.S.A.).—Gardner, J. A.; Hewitt, F. R.; Lugeon, M., 13.

—— (South).—Loomis, F. B., 2; Rogers, G. S., 2; Shufeldt, R. W., 3.

Carpenteria.—Chapman, F., 1 & 16; Newton, R. B., 5 & 10; Yabe, H., 7.

Carpinus.—Reid, C., 6; Sangiorgi, D., 2.

Carpolithes.—Baumberger, E., 2; Kidston, R., 4; Knowlton, F. H., 4; Matson, G. C., 3; Mœller, H.; Reid, C., 6.
Carrara (Tuscany).—Bonney, T. G., 5 & 10; Preller, C. S. du R., 4.
Carrizo Mt. (Arizona). — Emery, W. B., 1.
Carrock Fell (Cumberland).—Holmes, A., 13; Scrivenor, J. B., 3.
Carrollite.—Zambonini, F., 6.
Carstairs (Lanarkshire). — Gregory, J. W., 11 & 16.
Cartagena (Colombia). — Pilsbry, H. A., 3.
Cartennian, Algeria.—Dalloni, M., 10.
Carter, W. L., *Obit.*—*See* Anon., 14; & Sheppard, T., 19.
Cartography, geological, in Germany. —Koehne, W.
——, physical geography &.—Ogilvie, A. G.
——. *See also* Mapping.
Carya.—Reid, C., 6.
Carychium.—Cossmann, M., 1; Dollfus, G. F., 5; Morgan, J. de, 3.
Carydium.—Spriestersbach, J.
Caryocrinites.—Williams, M. Y., 11.
Caryocystis.—Reed, F. R. C., 3.
Caryophyllia.—Nomland, J. O., 4.
Casablanca (W. Morocco). — Lecointre, G., 7 & 8.
Casal do Monte (Portugal).—Vasconcellos, J. L. de.
Casarza (Liguria).—Riva, P.
Cascade Range (U. S. A.).—Parker, G. L.; Smith, W. D., 5.
Casentino (Italy).—Migliorini, C. I.
Cash, W., *Obit.*—*See* Woodward, A. S., 2.
Cass dist. (N.Z.).—Speight, R., 5.
Cassia.—Berry, E. W., 18; Knowlton, F. H., 4; Sangiorgi, D., 2.
Cassianella.—Trechmann, C. T., 2.
Cassidaria.—Martin, K.
Cassidulus.—Checchia-Rispoli, G., 1; Clark, W. B., 3; Morgan, J. de, 3.
Cassis.—Dall, W. H., 5; Llueca, F. G.; Martin, K.; Nœrregaard, E. M., 1.
Cassiterides, The.—Smith, G.
Cassiterite.—Jones, W. R., 2 & 3; Kato, T., 2; Williams, C. M.
——. *See also* Tin ores.
Castanea.—Colani, M.
Castanet (Dordogne).—Harlé, E., 1.
Castellane (Basses-Alpes). — Guébhard, A., 1, 8, 9 & 11; Kilian, W., 10 & 11; Zurcher, P., 4.
Castelnuovo di Garfagnana (Tuscany).—Quercigh, E., 4.
Castelsardo (Sardinia).—Serra, A., 7.
Castenedolo (N. Italy).—Taramelli, T., 3.
Castile Gypsum, Texas.—Udden, J. A., 3.
Castle Hill Basin (N.Z.).—Speight, R., 6.
Castle Valley coalfield (Utah).—Lupton, C. T., 4.
Castlemaine dist. (Victoria).—Harris, W. J.; Whitelaw, H. S., 5.
Castlepook (Co. Cork). — Scharff, R. F., 4.
Castor & Casteroides.—Hay, O. P., 1.
Cataclastic action, in meteoric irons. —Meunier, S., 5.
Catahoula Sandstone, U.S.A.—Goldman, M. I.; Matson, G. C., 3.
Catalonia (Spain). — Calatayud, J. R. B.; Chevalier, M.; Faura, M.
—— (—), potash deposits.—Rubio, C.
Catamaran coalfield (Tasmania).—Twelvetrees, W. H., 1.
Catenicella.—Canu, F., 11.
Caterham (Surrey).—Fagg, C. C., 2.
Catopterus.—Eastman, C. R., 2.
Catopygus.—Clark, W. B., 3.
Catskill Mts. (New York).—Chadwick, G. H., 2; Clarke, J. M., 5; Johnson, D. W., 2; Rich, J. L., 1 & 5; Walker, J. B.
Caturus.—Woodward, A. S., 27.
Cauca R. (Colombia).—Ward, W. F.
Caucasus Mts.—Loewinson-Lessing, F., 2 & 5; Raeburn, H.
Caux (Normandy).—Lemoine, P., 2.
Cava Trefontana (Ticino).—Andersson, E., 2.
Cave deposits, Burma.—Woodward, A. S., 6.
—— ——, California.—Stock, C., 5.
—— ——, Malta.—Bate, D. M. A., 1.
—— ——, Maryland.—*See* Smithsonian Institution, 1 & 2.
—— ——, Nevada.—Young, G. J., 1.
—— ——, Switzerland.—Stehlin, H. G., 6.
—— drawings, Spain.—Aguilar, J. J. de; Woodward, A. S., 23.
—— site, Oxfordshire.—Peake, A. E., 1.
Caverns & Caves.—Burma & Malay Peninsula.—Annandale, N., 2.
—— ——, Co. Cork.—Scharff, R. F., 4.
—— ——, Derbyshire.—Baker, E. A.
—— ——, Devonshire.—Lowe, H. J., 1 & 3.
—— ——, Equi, Apuan Alps.—Stefani, C. de, 2 & 3.
—— ——, Finland.—Rosberg, J. E., 2.
—— ——, Jura.—Collot, L.
—— ——, Katanga, Congo. — Schwetz, —.
—— ——, Kentucky.—Martel, E. A., 2.
—— ——, Kilkenny.—Praeger, R. L., 3.
—— ——, Mendip Hills.—Baker, E. A.
—— ——, New South Wales.—Suessmilch, C. A., 3.
—— ——, Norway.—Danielsen, D., 1; Oxaal, J., 2 & 4.

Caverns & Caves, Pembrokeshire.—Leach, A. L., 1 & 6.
—— ——, Sicily.—Gregorio, A. de, 7.
—— —— Sutherlandshire.—Peach, B. N.
—— ——, Yorkshire.—Baker, E. A.; Hutton, J.
—— ——, formation of.—Martel, E. A., 1.
Caviere (I. of Elba).—Aloisi, P.
Cavities, in coal seams.—Gosselet, J., 3.
——, in crystals & rocks.—Bridgman, P. W., 1.
——, in gneiss & schists, Macedonia.—Patte, E.
——, in magnesian limestone.—Abbott, G., 2.
——, in obsidian.—Wright, F. E., 2 & 9.
——, in oil sands.—Shaw, E. W., 13.
——, in zeolites.—Wherry, E. T., 6.
——, sandstone filling.—Eskola, P., 1.
Ceanothus.—Reid, C., 6.
Cebatha.—Berry, E. W., 5.
Cebochœrus.—Depéret, C., 5.
Cebollite.—Schaller, W. T., 3.
Cebu, Prov. (Philippine Is.).—Pratt, W. E., 3; Yabe, H., 8.
Cedar Mountain (Nevada).—Merriam, J. C., 7.
Cedrostrobus & *Cedroxylon.*—Stopes, M. C., 2.
Celadonite.—Billows, E.; Lacroix, A., 34.
Celastrinites.—Knowlton, F. H., 4.
Celastrophyllum.—Kryshtofovich, A., 2; Walkom, A. B., 5.
Celastrus.—Knowlton, F. H., 4.
Celebes.—Iddings, J. P., 4 & 8; Knijff, J. de K.; Steiger, H. von; 't Hoen, C. W. A. P., 2; Van Waterschoot van der Gracht, W. A. J. M.
Celestite.—Duffour, A.
—— deposits, Gt. Britain.—Sherlock, R. L., 2.
—— ——, Mexico.—Wittich, E., 1.
Cellaria.—Canu, F., 3; Gregory, J. W., 23.
Cellepora.—Brydone, R. M., 5; Leriche, M., 10.
Celleporella.—Faura, M.
Celtis.—Colani, M.; Roman, F., 2.
Cement, effect of sulphides & sulphates in.—Witt, J. C., 2–4.
——, elasticity of.—Jouan, L.
—— materials, Montana.—Andrews, W. H.
—— —— Sicily.—Gregorio, A. de, 5.
—— ——, Tasmania.—Twelvetrees, W. H., 6.
——, Portland, constitution of.—Klein, A. A.
—— setting process in.—Blount, B., 1; Deny, E.; Desch, C. H.; Le Chatelier, H., 4; Rankin, G. A., 2; Rhodin, J. G. A.
Cement, solubility of.—Witt, J. C., 5.
—— works, recovery of potash in.—Wilson, A. W. G.
Cénitz (Basses-Pyrénées).—Welsch, J., 1.
Cenomanian, Bornholm I.—Ravn, J. P. J., 2.
——, Central Asia.—Stefanini, G., 3.
——, France.—Lecointre, G., 1 & 3.
—— polyzoa.—Lang, W. D., 5.
Centetes.—Gregory, W. K., 5.
Centovalli (Switzerland). — Radeff, W. G.
Central Provs. (India). — Burton, R. C.; Fermor, L. L., 1 & 9.
Centrolite.—Flink, G., 4.
Centronella & *Centronelloidea.*—Weller, S., 1.
Centropleura.—Illing, V. C., 1.
Centrosaurus.—Lambe, L. M., 1.
Cephalonia I. (Greece).—Eginitis, D., 1; Goulandris, E., 1.
Cephalopoda, Cretaceous. — Crick, G. C. 7.
—— fossil.—Naef, A.
——, mandible of.—Crick, G. C., 3.
——, Silurian.—Mook, R. R.
——, Tertiary, Chapman, F., 4.
——. *See also* Ammonites.
Cepolis.—Dall, W. H., 2.
Ceramic materials, Queensland.—Ball, L. C., 18.
——. *See also* Clays.
Ceramopora.—Vinassa de Regny, P., 3.
Ceraspis.—Eastman, C. R., 2.
Ceratiocaris.—Mansuy, H., 1.
Ceratites.—Frauenfelder, A.; Mansuy, H., 1.
Ceratocephala.—Raymond, P. E., 4.
Ceratodus.—Chapman, F., 2; Gregory, W. K., 1; Peyer, B.; Priem, F., 6.
Ceratophyllum.—Reid, C., 6.
Ceratopsia, Cretaceous.—Brown, B., 4.
Ceratorhinus.—Roman, F., 1.
Ceraurinus.—Slocom, A. W.
Ceraurus.—Slocom, A. W.; Walcott, C. D., 9.
Cerbolite.—Porlezza, C.
Cercis.—Knowlton, F. H., 4.
Cercopithecus.—Pilgrim, G. E., 5.
Cerdognathus.—Broom, R., 6.
Cererithyris.—Buckman, S. S., 4.
Cérin (France).—Boulenger, G. A., 6.
Cerion.—Dall, W. H., 2.
Ceriopora.—Filliozat, M., 1.
Cerite.—Doelter, C., 2; Flink, G., 4.
Cerithiopsis.—Clark, B. L., 1; Cossmann, M., 1; Dall, W. H., 2 & 5; Dickerson, R. E., 4, 6 & 9; Harmer, F. W., 2; Martin, K.; Waring, C. A.
Cerithium.—Anderson, F. M.; Clark, B. L., 1; Cossmann, M., 1; Dainelli, G.; Dall, W. H., 2 & 5; Dickerson, R. E., 3; Greco, B., 3; Martin, K.; Ravn, J. P. J., 5.
—— Limestone, Denmark.—Nielsen, K. B., 3.

Cerodon.—Broom, R., 6.
Ceromya & *Ceromyopsis.*—Gerber, E., 3.
Cerritos (Mexico).—Espinosa, L. C., 2.
Cerrusite.—Anderson, C., 1.
Cervalces.—Hay, O. P., 1.
Cervicorniæ, Miocene.—Hernandez-Pacheco, E., 1; Matsumoto, H., 7.
Cervino (Italy).—Sacco, F., 5.
Cervus.—Hay, O. P., 1; Matsumoto, H., 2 & 3; Merriam, J. C., 6.
Cestracion.—Chapman, F., 3 & 16.
Cetacea, Tertiary.—Chapman, F., 8.
Cevennes Mts. (France).—Thiéry, P., 1.
Ceylon, minerals. — *See* GREAT BRITAIN, 4 & 9; & IMPERIAL INSTITUTE, 13.
Ceyssatite.—Gonnard, F., 1.
Cezimbra (Portugal).—Dehorne, Y., 4.
Chabazite.—Smith, G. F. H., 1.
Chabiague (Basses Pyrénées). — Welsch, J., 1.
Chad, Lake, former connection of, with Nile.—Heawood, E.; King, W. J. H., 2.
Chœropotamus.—Depéret, C., 5.
Chœtetes.—Benson, W. N., 6; Branson, E. B., 5; Chapman, F., 27; Mansuy, H., 2.
Chalchihuites (Mexico).—Contreras, E.
Chalcis, Peninsula (Macedonia).—Lugeon, M., 12.
Chalco, Lake (Mexico).—Cayeux, L., 1.
Chalcocite.—Graton, L. C., 3; Rogers, A. F., 5; Tolman, C. F., 4.
Chalcocitization, zones of.—Emmons, W. H., 1.
Chalcophanite.—Ford, W. E., 1.
Chalcophyllite.—Doelter, C., 1.
Chalcopyrite. — Burdick, C. L.; Young, S. W., 2.
Chalcosiderite.—Doelter, C., 1.
Chalcostibite.—Ungemach, H., 4.
Chalk, Champagne.—Bochin, F., 2.
——, East Anglia.—Baker, H. A., 5.
——, England.—Sheppard, T., 15.
——, Kent.—Dibley, G. E., 1; Osman, C. W.
——, London Basin.—Hayward, R. B.
——, Scotland (W.).—Hill, W., 2.
——, Suffolk.—Boswell, P. G. H., 1.
——, Surrey. — Dewey, H., 3; Withers, T. H., 1.
——, pre-Thanetian erosion of the.—Bromehead, C. N., 1.
——, production & consumption of, in Sweden.—Hedstrœm, H., 1.
Chalk boulders, Aberdeen.—Hill, W., 1.
—— regions, soil-cap movements in.—Gentil, L., 16 & 17.
Chalk-with-flints, Jura.—Bourgeat, l'Abbé, 3.
Chalmersite.—Johnson, B. L.
Chalosse (France).—Lambert, J., 1.
Chama.—Dall, W. H., 2; Dickerson, R. E., 9; Douvillé, H., 12 & 22; Mansfield, W. C.
Chamasaurus.—Williston, S. W., 1.
Chambéry (France).—Gorceix, C., 3; Révil, J., 5.
Chamechaude (Isère).—Kilian, W., 9.
Champagne (France).—Bochin, F., 2; Leriche, M., 7.
Champlain Sea.—Mather, K. F., 2.
—— submergence, Maine.—Meserve, P. W.
Chanac Formation, California.—Merriam, J. C., 9.
Chañarcillo (Chile). — Whitehead, W. L., 4.
Chancay (Peru).—Sutton, C. W., 2.
Channagiri Taluk (Mysore).—Jayaram, B., 2.
Channel Tunnel.—Fell, A.; Fox, Sir F.; Perkins, W. T.
Channels, overflow, from glacier lakes.—Bonney, T. G., 3 & 6; Kendall, P. F., 1; Smith, Bernard, 1.
Chanos.—Erasmos, G. d', 1.
Chaouia (Morocco).—Lecointre, G., 9.
Chapman Sandstone, Maine.—Williams, H. S., 2.
'Chapopote,' Mexico, analysis of.—Vigier, V. von.
Characeæ, Jurassic.—Reid, C., 5.
——, Oligocene.—Reid, C., 4.
Characinidæ, antiquity of the.—Boulenger, G. A., 2.
Charixa.—Lang, W. D., 1.
Charleroi beds, Belgium.—Racheneur, F.
Charleston (S. Carolina).—Stephenson, L. W., 1.
Charlotte Waters (N. S. W.).—Mingaye, J. C. H., 6.
Charlton (Kent).—Leach, A. L., 2.
Charltonithyris.—Buckman, S. S., 4.
Charmouth (Dorset).—Lang, W. D., 6; Young, G. W., 5.
Charmouthian, France.—Couffon, O.
Charnian movements, E. Kent.—Baker, H. A., 2.
Charnockites, analysis of.—Washington, H. S., 5.
Charnwood Forest (Leicestershire).—Bonney, T. G., 4.
Charters Towers (Queensland).—Marks, E. O.; Reid, J. H., 4.
Chartreuse (Isère).—Combaz, P.
Chartronia.—Onetti, A.
Chartroniella.—Cossmann, M., 5.
Chasmops Limestone, Sweden.—Sjœberg, S., 1.
Chasmosaurus.—Lambe, L. M., 1.
Chasmotherium.—Depéret, C., 2.
Châteaubriant (France).—Kerforne, F., 2.
Châteauneuf-sur-Rance (Brittany).—Galaine, C., 2.

Châtelet beds, Belgium.—Renier, A., 3.
Chattanoogan series, U.S.A. — Ulrich, E. O., 1.
Chavenage (Gloucestershire). — Richardson, L., 1.
Chavigny Township (Quebec).—Bancroft, J. A., 1.
Cheese Bay (Haddingtonshire).—Day, T. C., 2 & 3.
Cheilstome polyzoa.—Canu, F., 8 & 11; Lang, W. D., 1 & 5.
Cheirodus.—Eastman, C. R., 2.
Cheirolepis.—Lozano, E. D., 2.
Cheirotherium.—Horwood, A. R., 1; Lull, R. S., 3; Maidwell, F. T., 3.
Cheirotheroides.—Lull, R. S., 3.
Cheiruridæ, Silurian.—Etheridge, R., *fil.*, 10.
Cheirurinæ, classification & evolution of the.—Barton, D. C., 1.
Cheirurus.—Chapman, F., 5; Gortani, M., 3; Raymond, P. E., 4.
Chelan R. Basin (Washington).—Marshall, R. B., 9.
Chellaston (Derbyshire). — Smith, Bernard, 3.
Chellean, Portugal.—Fontes, J., 1.
Chelonia, ancestry of the.—Watson, D. M. S., 2.
——, Cretaceous.—Gilmore, C. W., 6.
——, Miocene.—Campana, D. del, 7 & 8; Matsumoto, H., 5.
——, systematic position.—Boulenger, G. A., 5.
Chelonoides.—Lull, R. S., 3.
Chelyrhynchus.—Haughton, S. H., 3.
Chemical deposits, continental.—Blackwelder, E., 6.
—— ——, marine.—Vaughan, T. W., 9.
—— equilibrium, laws of.—Williamson, E. D., 2.
Chemistry, colloidal, geology &.—Blanck, E., 1.
Chemnitzia.—Mansuy, H., 1.
Chenay (Marne).—Dollfus, G. F., 2.
Chenevixite.—Doelter, C., 1; Mingaye, J. C. H., 1.
Cheniothyris.—Buckman, S. S., 4.
Chenopus.—Cossmann, M., 1 & 5; Douvillé, H., 22; Martin, K.
Cher (France).—Combes, P.
Cherts, Kansas & Oklahoma.—Twenhofel, W. H., 6; Wooster, L. C., 2.
——, Missouri.—Cox, G. H., 2.
——, Rhynie, Aberdeenshire.—Kidston, R., 6.
——, Mississippian.—Barton, D. C., 4.
——, origin of.—Dean, R. S.; Tarr, W. A., 3; Van Tuyl, F. M., 10.
——, radiolarian, Oregon.—Smith, W. D., 3.
Chertsey (Surrey).—Dewey, H., 8.
Chesham (Bucks.).—Barrow, G., 3 & 9.
Cheshire.—Maidwell, F. T., 1; Rhodes, J. E. W., 1.
Chester Series, United States.—Ulrich, E. O., 2.
Chettaba (Algeria).—Joleaud, L., 2.
Cheviot dist. (N.Z.).—Henderson, J., 6.
Chewton (Victoria).—Baragwanath, W., 8.
Chézery (Fr. Jura).—Ronchadzé, J.
Chhindwara District (India).—Fermor, L. L., 9.
Chiastolite.—Brammall, A., 2; Rastall, R. H., 1.
Chica, Sierra (Argentina).—Rimann, E., 2.
Chicagocrinus.—Wilson, H. E.
Chico Formation, S. California.—Waring, C. A.
Chiese R. (Lombardy).—Bonomini, C., 3; Caldera, F., 1.
Chieti (Italy).—Cassetti, M., 1.
Chigwell Row (Essex). — Trinder, W. M.
Chihuahua State (Mexico).—Honigmann, E., 1 & 2; Ramirez, S.; Scalia, S., 2; Tovote, W.
Chikkim Series, Himalaya.—Spitz, A., 1.
Chilcotin dist. (B.C.).—Galloway, J. D., 9.
Childrenite.—Doelter, C., 1; Drugman, J.
Chile.—Sundt, L., 1 & 2.
——, coalfields.—Harding, J.
——, copper mining. — Grandon, A. F.; Matta, J. G., 1.
——, iron industry. — Lawrence, A. H.; Vicuña, F. R.
——, minerals.—Bado, A. A., 2; Brueggen, J., 1–5; Harder, E. C., 2; Ossa, I. D., 1–3.
——, nitrate deposits. — Rogers, A. H.; Singewald, J. T., *fil.*, 2; Sundt, L., 3.
——, silver ore deposits.—Whitehead, W. L., 4.
——. *See also* CHILE.
Chillagite.—Mingaye, J. C. H., 7.
Chillagoe mineral field (Queensland).—Ball, L. C., 11.
Chilonyx.—Broom, R., 1.
Chilopoda, development of the.—Tothill, J. D.
Chimœra.—Leriche, M., 6.
Chimæroidea, Jurassic.—Leriche, M., 6.
Chimbote (Peru).—Sutton, C. W., 1.
Chimney Mt. (New York).—Miller, W. J., 2.
Chimneys, vibration of.—Omori, F., 4.
China.—Deprat, J., 2 & 14; Hayasaka, I., 3; Offord, J.
——, geological history. — Blackwelder, E., 1.
——, mineral industry. — Collins, W. F.
—— (South-western).—*See* Yunnan.
China clay, W of England.—Collins, H. F., 3.

Chincha Valley (Peru).—Portocarrero, J. N., 2.
Chingford (Essex). — Thompson, P. G.; Wrigley, A., 2.
Chione.—Anderson, F. M.; Clark, B. L., 1 & 5; Cossmann, M., 8; Dall, W. H., 2 & 5; Nomland, J. O., 3 & 6; Waring, C. A.
Chipola R. (Florida).—Sellards, E. H., 6.
Chirocentrites.—Erasmo, G. d', 1.
Chirodota.—Upton, C.
Chiromyoides.—Stehlin, H. G., 2.
Chironomus.—Cockerell, T. D. A., 19.
Chiroptera, Pleistocene.—Anthony, H. E., 4.
——, Tertiary.—Matthew, W. D., 6; Revilliod, P., 1 & 2.
Chiropteris.—Walkom, A. B., 5.
Chisana-White River dist. (Alaska).—Capps, S. R., 6.
Chisone Valley (Cottian Alps).—Grill, E., 3.
Chiton.—Dunlop, R., 2.
Chitral.—Hayden, Sir H. H., 4.
Chiusi (Tuscany).—Campana, D. del, 6.
Chizeuil (France).—Lacroix, A., 57.
Chlamys.—Cossmann, M., 1, 5 & 7; Greco, B., 1; Martin, K.; Newton, R. B., 1; Paris, E. T.
Chlamytherium.—Sellards, E. H., 2.
Chlorides, alkaline, Stromboli. — Ponte, G., 2.
——, crystallization of.—Gaubert, P., 1.
——, in oilfield waters. — Washburne, C. W., 2.
Chlorinated waters, Pyrenees.—Garrigou, F., 1.
Chlorite.—Mingaye, J. C. H., 1.
Chloritoid, Western Australia.—Simpson, E. S., 2.
——, optical characters of.—Souza-Brandão, V., 3.
Choctawhatchee Marl, Florida.—Mansfield, W. C.
Chomatodus.—Eastman, C. R., 2.
Chometokadmon.—Erasmo, G. d', 1.
Chondrodite.—Cesàro, G., 10; Flink, G., 4.
Chondrodonta.—Cossmann, M., 5.
Chondrostibiane.—Doelter, C., 1.
Chonetella.—Grœnwall, K. A., 6.
Chonetes. — Branson, E. B., 5; Diener, C.; Dunlop, R., 2; Fuchs, A.; Gardiner, C. I., 3; Garwood, E. J., 1; Girty, G. H., 1 & 4; Hede, J. E., 2 & 3; Mansuy, H., 1; Molengraaff, G. A. F., 4; Reed, F. R. C., 4; Smyth, L. B.; Stefani, C. de, 4; Twenhofel, W. H., 1; Weller, S., 1; Williams, H. S., 2.
Chonopectus.—Weller, S., 1.
Chonostrophia.—Williams, H. S., 2.
Chorley Wood (Herts.).—Barrow, G., 4 & 7.
Chriacus.—Matthew, W. D., 11.
Christchurch (N. Z.).—Hilgendorf, F. W.; Symes, L. P.
Christiania (Norway).—Œyen, P. A., 2 & 3.
Christiania.—Reed, F. R. C., 4.
Chromite.—Williams, J. C.
—— deposits, Great Britain. — Strahan, Sir A., 14.
—— ——, Maryland.—Singewald, J. T., *fil.*, 1.
—— ——, New Zealand.—Morgan, P. G., 10.
—— ——, Quebec.—Harvie, R., 4.
—— ——, S. Rhodesia.—Zealley, A. E. V., 1.
——, in Beer-stone, Devonshire.—Davies, G. M., 5.
——, magnetic properties of. — Lewis, J. V., 2.
——, production of.—Diller, J. S., 3.
Chromium compounds, spectra of.—Moir, J., 2.
Chronology, in geology.—Schuchert, C., 7.
Chrysalidina.—Cushman, J. A., 1.
Chrysodomus.—Anderson, F. M.; Clark, B. L., 1 & 5; Dickerson, R. E., 5 & 6; Moody, C. L., 1; Nomland, J. O., 3 & 5.
Chrysophrys.—Chapman, F., 1, 3 & 16; Llueca, F. G.; Sacco, F., 1.
Chrysostoma.—Trechmann, C. T., 5.
Chrysotile veins, origin of.—Taber, S., 3.
Chrysotile-asbestos, Quebec.—Graham, R. P. D., 1.
Chuangia.—Mansuy, H., 3.
Chur (Switzerland).—Kreis, A.
Churchill R. (Canada). — Alcock, F. J., 2; McInnes, W.; Tyrrell, J. B., 9.
Churchite.—Doelter, C., 1; Zambonini, F., 5.
Chypeorbis.—Douvillé, H., 7.
Cicuta.—Reid, C., 6.
Cidaris.—Bather, F. A., 6; Checchia-Rispoli, G., 12; Clark, W. B., 3; Lambert, J., 6; Stefanini, G., 4.
Cieza (Spain).—Dupuy de Lome, E., 4.
Cil-y-Coed — St. Annes — Llanllyfni dist. (Carnarvonshire. — Hughes, E. W.
Cimatopleura.—Lozano, E. D., 3.
Cimitaria.—Williams, H. S., 2.
Cimolestes.—Woodward, A. S., 14.
Cimoliocentrum.—Cossmann, M., 5.
Cimolite.—Doelter, C., 2.
Cimolopteryx.—Shufeldt, R. W., 2.
Cincinnati (U.S.A.).—Braun, E. L.
Cinglais, Forest of (Normandy).—Kerforne, F., 1.
Cingularia.—Kidston, R., 4.
Cinnabar deposits, Nevada.—Knopf, A., 2.
—— ——, Tuscany, Toso, P., 1.

Cinnamomum.—Baumberger, E., 2; Colani, M.; Reid, C., 6; Sangiorgi, D., 2.
Cinulia.—Waring, C. A.
Cinzas, Rio das (Brazil).—Oliveira, E. P. de, 1.
Ciply Tuffs, Belgium.—Leriche, M., 3.
Ciran (France).—Lecointre, G., 3.
Circœa.—Reid, C., 6.
Circe.—Cossmann, M., 1.
Circophyllia.—Filliozat, M., 2.
Circopora.—Stefani, C. de, 4.
Circoporella.—Hayasaka, I., 2.
Cirrepedia, Cretaceous & Palæozoic.—Withers, T. H., 1 & 2.
——, shell fragments described as.—Withers, T. H., 3.
——, Tertiary.—Pilsbry, H. A., 2.
Cirsochilus.—Cossmann, M., 5.
Cistella.—Morgan, J. de, 2.
Citta del Pieve (Italy).—Verri, A., 2.
Civilisation, Neolithic.—Evans, Sir A.
Cladiscites.—Trechmann, C. T., 2.
Cladium.—Reid, C., 6; Welsch, J., 1.
Cladodus.—Dunlop, R., 2; Eastman, C. R., 2.
Cladophlebis. — Halle, T. G., 1; Knowlton, F. H., 5; Mœller, H.; Pelourde, F., 2; Penhallow, D. P.; Walkom, A. B., 2, 5 & 7; Wieland, G. R., 1.
Cladopora.—Williams, M. Y., 11.
Cladoselache.—Woodward, A. S., 22.
Cladoxylon.—Bertrand, P., 5.
Clangula.—Munthe, H., 5.
Clapton-Clevedon dist. (Somerset).—Dixey, F., 1.
Clare I. (Ireland).—Praeger, R. L., 1.
CLARK, W. B., *Obit.*—*See* Anon., 15; Berry, E. W., 12; Clarke, J. M., 9; & Harker, A., 6.
Clark Fork, Columbia R. (U.S.A.).—Marshall, R. B., 1.
Classification, diastrophism &. — Thomson, J. A., 10.
Clathrodictyon.—Boehnke, K.; Mansuy, H., 1; Savage, T. E., 4.
Clathropteris.—Mœller, H.
Clathrurella.—Harmer, F. W., 2.
Claudetite.—Doelter, C., 1.
Clausilia.—Cossmann, M., 1.
Clavator.—Reid, C., 5.
Clavatula.—Bongo, F., 1; Cipolla, F.; Newton, R. B., 1.
Clavella.—Clark, B. L., 5.
Claverly (Shropshire).—Kidston, R., 4.
Clavigera.—Thomson, J. A., 17.
Clavilithes.—Bongo, F., 1; Cossmann, M., 1; Martin, K.
Claviporella.—Chapman, F., 16.
Clavulina.—Chapman, F., 18; Cushman, J. A., 1.
Claxheugh (Durham). — Woolacott, D., 1.
'Clay slips,' in coal seams.—Wilson, W. B.
Clays, Alberta.—Ells, S. C., 2.
Clays, Appalachian States (S.).—Watkins, J. H.
——, British Columbia.—Camsell, C., 12.
——, Canada.—Keele, J., 1–5; Ries, H., 2 & 3.
——, Denmark.—Nœrregaard, E. M., 2.
——, Great Britain.—Searle, A. B.
——, Illinois.—Stull, R. T.
——, Malay States.—Scrivenor, J. B., 5.
——, Mexico City.—Hilgard, E. W., 2.
——, Minnesota.—Grout, F. F., 10.
——, Mysore.—Sampat Iyengar, P., 3; Venkataramaiya, B. N., 1 & 2.
——, New Jersey.—*See* NEW JERSEY, 2.
——, New Zealand.—Jameson, A. B.; Morgan, P. G., 6.
——, Norway.—Œyen, P. A., 6.
——, Philippine Is.—Witt, J. C., 1.
——, Queensland.—Ball, L. C., 18; Jensen, H. I., 7.
——, Saskatchewan.—Davis, N. B., 3.
——, South Australia.—*See* SOUTH AUSTRALIA, 2 & 13.
——, Staffordshire (N.).—Stobbs, J. T., 3.
——, Tennessee.—Schroeder, R. A.
——, Texas.—Ries, H., 5.
——, Victoria.—Mahony, D. J., 3.
——, association of, with kaolin.—Segrè, C., 2.
——, chemical & physical properties of.—Bertrand, L., 5; Odén, S., 1; Orvañanos, B.
——, constituents of.—Fry, W. H.
——, lacustrine, L. Bascom.—Taylor, F. B., 2.
——, marine, Moraines &.—Bjœrlykke, K. O.
——, micro-structure of.—Ries, H., 7.
——, occurrence & uses of.—Ries, H., 1.
——, in ore-dressing operations.—Allen, A. W.
——, plasticity & origin of.—Davis, N. B., 2.
——, Pleistocene, Sweden.—Tamm, O., 5.
——, pressure & resistance of.—Bell, A. L.
——, refractory properties of.—Le Chatelier, H., 10.
——, retention of oil by.—Little, H. P., 1.
——, semi-refractory, Manitoba.—Johnston, W. A., 10.
——, the term.—Salomon, W., 2.
——. *See also* Fire clay, Kaolin, &c.
Claygate (Surrey).—Grist, C. T., 1.
Claydon (Suffolk).—Boswell, P. G. H., 6.
Clearwater R. (Alberta).—Rose, B., 2.

Cleavage diamonds, Kimberley.—Sutton, J. R.
Cleidophorus.—Trowbridge, A. C., 3; Williams, H. S., 2.
Cleiothyridina.—Branson, E. B., 5; Girty, G. H., 1, 2 & 4; Weller, S., 1.
Cleiothyris.—Etheridge, R., *fil.*, 1.
Clematis.—Reid, C., 6.
Cleodora.—Nœrregaard, E. M., 1.
Cleveite.—Richards, T. W., 3.
Cleveland (Ohio).—Van Horn, F. R., 2.
Cleveland coalfield (Montana).—Bowen, C. F., 2.
Cliffs, erosion of, Normandy.—Varigny, H. de.
Clift Islands, Pacific.—Davis, W. M., 5.
Clifton-Morenci dist. (Arizona).—Reber, L. E., *fil.*
Cliftonia.—Reed, F. R. C., 4.
Climacograptus.—Dollé, L., 1.
Climactichnites.—Burling, L. D., 4.
Climate, Hertfordshire.—Hopkinson, J., 1.
——, Minnesota.—Leverett, F., 1.
——, of ancient Palestine.—Gregory, J. W., 37.
——, cyclones &.—Deeley, R. M., 9.
——, effect of, on rate of increase of temperature with depth.—Boussinesq, J., 2 & 5.
——, evolution &.—Barbour, T.; Matthew, W. D., 1.
——, evolution of herbaceous plants &.—Sinnott, E. W., 2.
——, geological time &.—Deeley, R. M., 8; Schuchert, C., 1.
——, in glaciated regions.—Nordenskœld, O., 2.
——, historic & pre-historic.—Pettersson, O.
——, Oligocene.—Dickerson, R. E., 9.
——, Palæozoic & Mesozoic.—Antevs, E., 7.
——, Permo-Carboniferous.—Sayles, R. W., 2.
——, Pleistocene.—Frœdin, G., 9; Marr, J. E., 4; Sundelin, U.
——, Polar.—Deeley, R. M., 1.
——, post-Glacial.—Hœgbom, A. G., 6; Samuelsson, G.
——, pre-Cambrian.—Coleman, A. P., 5.
——, recent changes of, in Egypt.—Ferrar, H. T., 2.
——, Silurian-Devonian.—Barrell, J., 7.
——, volcanic dust veils &.—Arctowski, H.
——, weathering &.—Meyer, H. L. F.
Climatic changes, solar hypothesis of.—Huntington, E., 1.
—— oscillations, Pleistocene.—Geer, G. de, 5; Nordmann, V., 2; Reeds, C. A., 1.
—— zones, Eocene.—Dickerson, R. E., 10.
Clinohumite.—Cesàro, G., 10.
Clinozoisite.—Balzac, F., 2.
Clinton County (New York).—Miller, W. J., 6.
—— Group, Anticosti I.—Ulrich, E. O., 5.
—— ——, New York.—Chadwick, G. H., 4.
—— Mining Divn. (B.C.).—Brewer, W. M., 10.
—— Sand, Ohio.—Bonine, C. A.; Panyity, L. S.
Clintonella.—Reed, F. R. C., 4.
Cliona.—Principi, P., 3.
Clisiophyllum.—Garwood, E. J., 1; Smyth, L. B.
Clitambonites.—Chapman, F., 23; Reed, F. R. C., 4.
Clitopygus.—Lambert, J., 2.
Cloncurry dist. (Queensland).—Corbould, W. H.
Clonograptus.—Hall, T. S., 4.
—— Slates, Sweden.—Moberg, J. C.
Clorinda.—Savage, T. E., 3 & 4; Williams, M. Y., 11.
Clough, C. T., *Obit.*—*See* Anon., 16; Harker, A., 4; & Knott, C. G., 3.
Clun Forest (Shropshire).—Stamp, L. D.
Clunes goldfield (Victoria).—Baragwanath, W., 4.
Clupea.—Priem, F., 1.
Clyburn Valley (Cape Breton).—Wright, W. J., 2.
Clyde Basin.—Tyrrell, G. W., 9, 12 & 13.
——, Falls of (Lanarkshire).—Stark, J.
Clydonautilus.—Trechmann, C. T., 2.
Clypeaster.—Airaghi, C., 2; Boussac, J., 2; Checchia-Rispoli, G., 10 & 11; Clark, W. B., 3; Dickerson, R. E., 14; Jackson, R. T.; Lambert, J., 3 & 6; Lovisato, D., 1–4.
Clypeastreidæ, Miocene.—Lovisato, D., 1–4.
Cnemidactis & *Cnemidaster.*—Spencer, W. K., 2.
Cnemidiastrum.—Oppliger, F.
Coahuila State (Mexico).—Ibarra, J., 5–7, 10 & 11.
—— —— (—), water-supply.—Villarello, J. D.
Coal, absorption of oxygen by.—Graham, J. I., 1 & 2; Winmill, T. F., 2 & 3.
——, Amphibia embedded in.—Moodie, R. L., 8.
——, analyses of.—Campbell, M. R., 2 & 5; Hixson, W. A.; Nikitinsky, A. J.; Stansfield, E., 4.
——, boring for, Radnorshire.—Cantrill, T. C., 3 & 4; Watts, W. W., 3.
——, —— ——, Scania.—Gavelin, A., 3.
——, chemistry &.—Illingworth, S. R.

Coal, classification of. — Ashley, G. H., 4; Atkinson, R. W.
——, coking, Scotland.—Dron, R. W.
——, ——, Virginia.—Campbell, M. R., 1.
——, composition of.—Jeffrey, E. C., 1; Marcusson, J.; Tideswell, F. V., 1.
——, conservation of.—Bone, W. A., 2.
——, constituents of.—Jones, D. T.; Pictet, A., 1–3; Stopes, M. C., 8 & 9.
——, consumption & reserves of.—Hoel, A.
——, cost of.—Smith, G. O., 6.
——, determination of ash in.—Lesher, C. E., 2.
——, fissure, S. Africa.—Versfeld, W., 1.
——, formation of.—Kendall, J. D., 3; Stevenson, J. J., 2–4.
——, micro-constitution & structure of.—Hickling, G., 3 & 4.
——, micro-petrology of.—Hickling, G., 7; Stopes, M. C., 7.
——, moisture in.—Hulett, G. A.; Mack, E.; Winmill, T. F., 1.
——, natural history of.—Gardiner, C. I., 2.
——, nitrogen in.—Atwater, C. G.; Mahler, P.
——, occurrence of, Bear I., Arctic Ocean.—Antevs, E., 10.
——, —— ——, Tunisia.—Gentil, L., 19.
——, —— ——, Turkey.—Dominian, L.
——, origin of.—Jeffrey, E. C., 2–4; Knox, G.; Moore, E. S., 1.
——, oxidation of.—Charpy, G., 1; Partington, J. R.; Tideswell, F. V., 2; Wheeler, R. V.
——, oxidizable constituents of.—Graham, J. I., 5.
——, permeability of, by gases.—Graham, J. I., 3 & 4.
——, petrified.—Jeffrey, E. C., 3.
——, production of.—Erskine, J. Y.; Lesher, C. E., 3; Matta, J. G., 2; Rice, G. S., 2; *see also* Canada, 6.
——, products & bye-products of.—Stansfield, E., 1.
——, relations of, with petroleum.—Fuller, M. L., 3; Pictet, A., 1 & 2; White, D., 2.
——, salty.—Cobb, J.
——, specific gravity of.—Blyth, M. W.; Nebel, M. L., 1.
——, steaming tests of, Philippine Is.—Ycasiano, F. R.
——, thermal decomposition of.—Whitaker, M. C.
——, utilisation of.—Anon., 106; Blizard, J., 2; Bone, W. A., 1; Brame, J. S. S.; Haanel, B. F., 1; Lebour, G. A. L.
Coal, valuation of.—Parr, S. W., 1 & 2.
——, washing of.—Drakeley, T. J., 2.
——, weathering of.—Porter, J. B.
Coal age, forests of the.—Scott, D. H., 6.
Coal-balls.—Jeffrey, E. C., 3; Varney, W. D.
Coal-Measures, Belgium.—Cambier, R.
—— ——, Durham.—Trechmann, C. T., 6; Woolacott, D., 2.
—— ——, Gt. Britain.—Scott, D. H., 5.
—— ——, Kent.—Arber, E. A. N., 3; Kidston, R., 2.
—— ——, Lancashire.—Bolton, E.; Hickling, G., 5; Sherlock, R. L., 1.
—— ——, New South Wales.—Hedley, C.; Tillyard, R. J., 10 & 11.
—— ——, N. America.—Bassler, H.
—— ——, Ohio.—Hussakof, L., 3.
—— ——, Queensland.—Reid, J. H., 5.
—— ——, Scotland.—Kidston, R., 1.
—— ——, Sheffield dist.—Fearnsides, W. G., 3 & 4.
—— ——, Somerset.—Dixey, F., 1.
—— ——, S. Wales.—Simoens, G.
—— ——, Spitsbergen.—Geer, G. de, 12.
—— ——, Staffordshire (S.).—Arber, E. A. N., 1.
—— ——, Texas.—Watson, D. M. S., 6.
—— ——, United States (W.).—Van Tuyl, F. M., 9.
—— ——, fossil fungi in the.—Ellis, D., 4.
—— ——, insects of the.—Bolton, H., 2.
Coal-mines, air blasts in.—Rice, G. S., 1.
Coal-mining, Alberta.—Stewart, J. S., 3.
—— ——, America.—Dean, S., 3.
—— ——, Bengal, George, G.
—— ——, British Columbia.—Rice, G. S., 1; Robertson, W. F., 1.
—— ——, Illinois.—Andros, S. O., 1–9; Dean, S., 1; Young, C. M.
—— ——, Manchuria.—Wang, C. F., 1 & 2.
—— ——, Mexico.—Brown, E. O. F.; Ibarra, J., 4–6.
—— ——, New South Wales.—Atkinson, A. A.
—— ——, New Zealand.—*See* New Zealand, 9–16.
—— ——, Pennsylvania.—Dean, S., 2.
—— ——, Spitsbergen.—Galloway, W., 1.
—— ——, Victoria.—Broome, G. H.; Hunter, S., 1.
—— ——, Western Australia.—Woodward, H. P., 2 & 3.

Coal-mining, subsidences due to.—Lloyd, W. D.; Young, L. E., 1 & 2.
Coal resources, Gt. Britain.—Jevons, W. S.; Lupton, A.
—— ——, Illinois.—Cady, G. H., 3 & 4; Kay, F. H., 6; White, K. D.
—— ——, Missouri.—Greene, F. C.
—— ——, New Zealand.—Morgan, P. G., 1.
—— ——, United States.—Gilbert, C. G., 1 & 2.
—— ——, Virginia & Kentucky.—Butts, C., 1.
—— ——, of the World.—Fabrega, P.
—— seams, Philippine Is.—Pratt, W. E., 4.
—— ——, Staffordshire (S.).—King, W. W.
—— ——, Sydney Harbour, N.S.W.—Harper, L. F., 1.
—— ——, Yorkshire.—Kendall, P. F., 2.
—— ——, ash-yield & calorific values of.—Drakeley, T. J., 3.
—— ——, burning of.—Bowie, A.
—— ——, cavities in.—Gosselet, J., 3.
—— ——, clay-filled fissures in.—Wilson, W. B.
—— ——, erratics in.—Lister, J. H.; Pringle, J., 3.
—— ——, formation of.—Lomax, J.
—— ——, gas & oil wells through.—Rice, G. S., 3.
—— ——, mining of thick.—Whildin, W. G.
—— ——, —— —— thin.—Brown, J. F. K.; Dixon, H. O.
—— ——, splitting of.—Kendall, P. F., 3.
—— ——, valuation of lenticular.—Rogers, G. S., 7.
—— tar oils, analysis of.—Harker, G.
Coalfields, Alberta.—Dowling, D. B., 1, 4 & 12; MacVicar, J.; Rose, B., 6 & 8.
——, Algeria.—Dalloni, M., 11; Flamand, G. B. M.
——, Belgian Congo.—Fourmarier, P., 2.
——, Belgium.—Krusch, P.
——, Brazil.—Lisboa, A.; Oliveira, E. P. de, 1 & 2.
——, Bristol & Somerset.—Staples, E. H.
——, British Columbia.—Dowling, D. B., 6; MacKenzie, J. D., 6; Rose, B., 5 & 7.
——, Burma.—Cotter, G. de P., 1.
——, California.—Pack, R. W., 4.
——, Canada.—Dowling, D. B., 2 & 5; Gray, F. W.; Pruvost, P., 3.
——, Celebes.—t'Hoen, C. W. A. P., 2.
——, Chile.—Brueggen, J., 1 & 2; Harding, J.
Coalfields, China.—Yung, M. B.
——, Colorado.—Beekly, A. L.; Richardson, G. B., 2.
——, Dauphine.—Bertrand, P., 8.
——, Durham.—Stobbs, J. T., 5.
——, ——, bibliography.—Woolacott, D., 4.
——, Dutch East Indies.—Hœvig, P., 3.
——, East Midlands, England.—Anon., 112.
——, Europe.—Gruner, E.
——, —— (N. W.).—Stainier, X., 6; Walker, G. B., 1.
——, Fifeshire.—Anon., 110.
——, France (N.).—Barrois, C., 3 & 4; Bertrand, P., 1–4, 9 & 10.
——, —— & Gt. Britain, compared.—Pruvost, P., 7.
——, Gard, France.—Termier, P., 15.
——, Hainault.—Stainier, X., 2, 4 & 8.
——, Holland.—Asselbergs, E., 4; Klein, W. C.; *see also* HOLLAND.
——, Idaho.—Lupton, C. T., 2; Woodruff, E. G., 1.
——, Illinois.—Lee, W.
——, Ireland.—Griffith, R.
——, Java.—t'Hoen, C. W. A. P., 1.
——, Japan.—Nakamura, S.
——, Kent.—Arber, E. A. N., 3; Bolton, H., 1.
——, Korea State, India.—Fermor, L. L., 1.
——, Lancashire (S.).—Hickling, G., 6.
——, Leicestershire.—Horwood, A. R., 2 & 3.
——, Liège.—Renier, A., 2.
——, Montana.—Bowen, C. F., 1–3; Rogers, G. S., 1; Stebinger, E., 2 & 3.
——, New Brunswick.—Hayes, A. O., 3 & 5.
——, New Mexico.—Kirk, C. T., 2; Wegemann, C. H., 1.
——, New South Wales.—Harper, L. F., 1–3; Robertson, J. R. M.
——, New Zealand.—Henderson, J., 5; *see also* NEW ZEALAND, 3, 4 & 6.
——, Nigeria.—*See* IMPERIAL INSTITUTE, 14.
——, Nottinghamshire.—Longden, G. A.; Mitton, E.
——, Nova Scotia.—Brown, R.; Hayes, A. O., 4 & 5.
——, Oregon.—Lesher, C. E., 1.
——, Oxfordshire.—Arber, E. A. N., 2 & 4.
——, Pennsylvania.—Crankshaw, H. M.; Kuhn, H. A.; Moore, E. S., 1.
——, Peru.—Jimenez, J. V.; León, J. M. Y.
——, Poland.—Gurney, A. E.
——, Queensland.—Ball, L. C., 10; Cameron, W. E., 5; Dunstan, B., 6.
——, Rhode Island.—Ashley, G. H., 1 & 2.

Coalfields, Rhodesia.—Lightfoot, B.
——, Rocky Mountains.—Hills, R. C.
——, Saint Laurs, W. France.—Welsch, J., 5.
——, Saskatchewan.—Rose, B., 1, 3 & 4.
——, Savoy.—Kilian, W., 6.
——, Scotland.—Carruthers, R. G., 5; Clough, C. T., 2; Ferguson, D., 4; Hinxman, L. W., 2.
——, Shropshire.—Kidston, R., 4.
——, S. Africa.—Kloot, A.
——, South Wales.—Cantrill, T. C., 3; Jordan, H. K.; Strahan, Sir A., 10, 11 & 15.
——, ——, iron ores in.—Tallis, J. F.
——, Spain.—Heriot, E. M.; Lozano, R. S., 1.
——, Spitzbergen.—Wilcockson, W. H.
——, Staffordshire (S.).—Arber, E. A. N., 5; Barrow, G., 8; Fox, J.
——, Swaziland.—Garrard, J. J., 1.
——, Tasmania.—Gould, C.; Twelvetrees, W. H., 1.
——, United States.—Gruner, E.
——, Utah.—Clark, F. R., 1 & 2; Lewis, R. S.; Lupton, C. T., 4; Wegemann, C. H., 2.
——, Victoria.—Herman, H., 2 & 3; Hunter, S., 2.
——, Virginia.—Campbell, M. R., 1.
——, Warwickshire.—Barrow, G., 8.
——, Washington.—Daniels, J.; Saunders, E. J.; Woodruff, E. G., 2.
——, Yorkshire (S.).—Fearnsides, W. G., 2–5.
——, search for new, in England.—Strahan, Sir A., 2.
Coalinga (California).—Nomland, J. O., 2 & 6.
Coalville coalfield (Utah).—Wegemann, C. H., 2.
Coast Ranges, B.C.—Clapp, C. H., 5; Galloway, J. D., 9.
—— ——, California.—Dickerson, R. E., 12; Rogers, A. F., 1.
Coastal elevation, N.S.W.—Harper, L. F., 6.
—— erosion.—*See* Erosion, coastal.
—— Plain, Atlantic.—Stephenson, L. W., 2.
—— ——, Patagonia.—Windhausen, A., 3.
—— Region, Buenos Aires.—Torres, L. M.
—— Series, E. Africa.—Maufe, H. B., 2.
Coatepec, Lake (Salvador).—Juday, C.
Cobalt (Ontario).—Bastin, E. S., 3; Parsons, A. L., 2; Reid, J. A.
Cobalt, physical properties of.—Kalmus, H. T., 1–3.
——, production of.—Hess, F. L., 1.
Cobalt-manganese & nickel oxides, compound crystals of.—Hedvall, J. A.
Cobalt ores, Sweden.—Igelstrœm, L. J.
—— ——, mercury in.—Clevenger, G. H.
—— ——, occurrence, &c.—*See* IMPERIAL INSTITUTE, 16.
Cobalticyanide.—James, C.
Cobar mineral field (N.S.W.).—Andrews, E. C., 2.
Cobitis.—Priem, F., 1.
Coblentz beds, Rhine Valley.—Fuchs, A.
Coburg dist. (Victoria).—Cook, G. A.
Coccaster.—Spencer, W. K., 1.
Coccolepis.—Woodward, A. S., 13.
Cocconeis & *Cocconema.*—Lozano, E. D., 3.
Coccosteus.—Eastman, C. R., 2.
Cocculina.—Cerulli-Irelli, S., 2.
Cocculinidæ, Pliocene.—Cerulli-Irelli, S., 2.
Cocculus.—Kryshtofovich, A., 2.
Cochin China.—Mansuy, H., 1.
Cochlea.—Lull, R. S., 3.
Cochlodesma.—Cossmann, M., 8.
Cocinerite.—Hough, G. J.
Codakia.—Dall, W. H., 2.
Codicote (Herts.).—Sherlock, R. L., 8.
Cœlacanthus.—Bolton, H., 1; Eastman, C. R., 2; Lambe, L. M., 2.
Cœlidium.—Parks, W. A., 2.
Cœlocaulus.—Chapman, F., 6; Williams, M. Y., 11.
Cœloceras.—Principi, P., 5; Wingrave, W.
Cœlodus.—Erasmo, G. d', 1; Hussakof, L., 4; Priem, F., 3; Woodward, A. S., 27.
Cœloma.—Nœrregaard, E. M., 1.
Cœlophysis.—Huene, F. von, 1.
Cœlopleurus.—Clark, W. B., 3.
Cœlospira.—Reed, F. R. C., 4; Williams, M. Y., 11.
Cœnites.—Williams, M. Y., 11.
Cœnopithecus.—Stehlin, H. G., 2.
Cœur d'Alene dist. (Idaho).—Hershey, O. H.; Shannon, E. V., 1, 4 & 5; Umpleby, J. B., 3.
Coke, formation of.—Charpy, G., 2.
—— industry, N.S.W.—Harper, L. F., 5.
Colchester Quadrangle (Illinois).—Hinds, H., 1 & 2.
Colemanite.—Rogers, A. F., 10.
Coleoloides.—Cobbold, E. S., 2.
Coleoptera, Miocene.—Wickham, H. F., 1 & 3.
——, Pleistocene, Wickham, H. F., 2 & 4.
Coleorton (Leicestershire).—Horwood, A. R., 2.
Colerainite.—Poitevin, E., 1.
Colfax (California).—Moody, C. L., 2.
Colima, volcano (Mexico).—Arreola, J. M.

Colinus.—Shufeldt, R. W., 2.
Collbran contact, Korea.—Higgins, D. F.
Collenia.—Twenhofel, W. H., 8; Walcott, C. D., 2.
Colliery explosions.—Galloway, W., 2.
Collina.—Principi, P., 5.
COLLINS, J. H., *Obit.*—*See* Anon., 17; Bain, H. F., 4; Collins, H. F., 2; & Harker, A., 4.
Collobrierite.—Lacroix, A., 44.
Colloidal migration, in ore deposits.—Clark, J. D., 2.
Colloids, in sand-bank & delta formation.—Barton, E. C.
——, soil.—Sharp, L. T.
Collonia.—Cossmann, M., 5.
COLLOT, L., *Obit.*,—*See* Jourdy, E., 7.
Colobodus.—Andersson, E., 2.
Coloceras.—Dunlop, R., 2; Girty, G. H., 1.
Colombia (S. America).—Pilsbry, H. A., 3; Pogue, J. E., 4; Ward, W. F.
Colonus beds, Scania.—Hede, J. E., 3.
Colorado (U.S.A.).—Bastin, E. S., 1 & 5; Cross, W., 3; Darton, N. H., 2; Granger, W., 2 & 3; Lull, R. S., 8; Shufeldt, R. W., 4; Ziegler, V., 1.
—— (—), coalfields.—Beekly, A. L.; Richardson, G. B., 2.
——, Cretaceous.—Cockerell, T. D. A., 11; Lee, W. T., 2.
——, Eocene glaciation.—Atwood, W. W., 1 & 4.
——, flow breccias in.—Patton, H. B.
——, fossil insects.—Cockerell, T. D. A., 4, 7, 13, 18, 21, 22; Wickham, H. F., 1 & 3.
——, metal production.—Henderson, C. W., 3.
——, mineral springs.—Lester, O. C.
——, minerals & ore deposits.—Fitch, R. S.; Hess, F. L., 4; Larsen, E. S., 2 & 4; McLaughlin, D. H., 2; Means, A. H., 1; Ungemach, H., 2.
——, Miocene flora.—Knowlton, F. H., 4.
——, mountain building in.—Chamberlin, R. T., 3.
——, pitchblende deposits.—Alsdorf, P. R.; Collins, H.
——, reclamation of desert in.—Sykes, G.
——, rivers.—Hancock, E. T.
Colorado R. basin, water-supply.—La Rue, E. C.; Follansbee, R., 4 & 5.
Colpomya.—Savage, T. E., 4.
Colour, of alluvial diamonds.—Mennell, F. P., 2.
——, of pyrrhotite.—Mennell, F. P., 3.
——, of quartz.—Watson, T. L., 7.
Colour, rose, of rocks, Aiguilles Rouges.—Lugeon, M., 5.
Coloration, of minerals, radioactivity &.—Newbery, E.
Colouring matter, in soils.—Melin, E.
Columbella.—Clark, B. L., 1 & 5; Harmer, F. W., 2; Martin, K.; Moody, C. L., 1.
Columbellina.—Cossmann, M., 5.
Columbia, District of (U.S.A.).—Fenner, C. N., 2.
Columbia R. (Oregon).—Chaney, R. W.
Columbite.—Ungemach, H., 1.
Columbus (Kentucky).—Berry, E. W., 5.
—— Marsh (Nevada).—Hicks, W. B., 1.
Columnar structure, in igneous rocks.—Sosman, R. B., 2.
Columns, basaltic.—Dauzère, C., 2; Guébhard, A., 30.
Colymbetes.—Stopes, M. C., 2.
Colymbus.—Shufeldt, R. W., 2.
Comanchean, Florida.—Sellards, E. H., 9.
Comet Vale (Western Australia).—Jutson, J. T., 12.
Cominella.—Bell, A., 5; Marshall, P., 8.
Comley (Shropshire).—Cobbold, E. S., 1.
Commentry (France).—Bolton, H., 3; Lameere, A.; Tillyard, R. J., 9.
COMMONT, V., *Obit.*—*See* Leriche, M., 8.
Comoro Is. (Madagascar).—Lacroix, A., 38.
Composita.—Branson, E. B., 5; Girty, G. H., 1 & 2; Weller, S., 1.
Compsaster.—Schuchert, C., 2.
Comptichnus.—Lull, R. S., 3.
Compton-Efford grits, Devonshire.—Worth, R. H., 2.
COMSTOCK, T. B., *Obit.*—*See* Ries, H., 4.
Conception Bay (Newfoundland).—Buddington, A. F., 1; Dale, N. C.
Conchidium.—Kindle, E. M., 3; Williams, M. Y., 11.
Conchothyra.—Trechmann, C. T., 5.
Conconully mining dist. (Washington).—Jones, E. L., 3.
Concrete materials, Gr. Britain.—Boswell, P. G. H., 23.
—— ——, Iowa.—Beyer, S. W.
Concretions.—Abbott, G., 4.
——, W. Indies.—Meunier, S., 10.
——, ferruginous, in Permo-Triassic sandstones.—Jones, T. A., 2.
——, formed by algæ, in streams.—Roddy, H. J.
——, in limestone.—Bradford, S. C.; Maury, C. J., 1.
——, in marine sediments.—Bartrum, J. A., 3.
——, Miocene, Denmark.—Nœrregaard, E. M., 1.

Condé-sur-Ifs (Calvados).—Gidon, F.
Condensation, at surface of snow beds.—Rolf, B.
Condroz (Belgium).—Fourmarier, P., 5.
Condylarthra, Eocene.—Matthew, W. D., 12 & 13.
Condylocardia.—Chapman, F., 16.
Cone-in-Cone structure.—Haselhurst, S. R., 2; Neviani, A., 3.
Cone talus, caused by avalanches.—Jaccard, F.
Coned flints.—Clarke, W. G., 4; Sainty, J. E.
Conescharellina.—Waters, A. W.
Congeria.—Cossmann, M., 7; Douvillé, H., 11.
Conglomerates, Alsace.—Lapparent, J. de, 7.
——, Basses-Alpes.—Guébhard, A., 9.
——, Haddingtonshire.—Day, T. C., 3.
——, Ichinokawa, Japan.—Yabe, H., 1.
——, Mell Fell, Cumberland.—Green, J. F. N., 8.
——, Norway.—Goldschmidt, V. M., 1; Holtedahl, O., 4; Kolderup, C. F., 8.
——, Tarentaise.—Kilian, W., 15.
——, Archæan, Finland.—Mækinen, E., 2.
——, auriferous, Witwatersrand.—Cooke, L. H.; Mellor, E. T., 3; Tyrrell, J. B., 8; Wagner, P. A., 5; Young, R. B., 3.
——, autoclastic, Mysore.—Sampat Iyengar, P., 2.
——, quartzose, Staffordshire.—Jackson, J. W., 7.
——, Silurian, Victoria.—Junner, N. R., 3.
——, Tertiary, France.—Commont, V., 4; Kilian, W., 2; Termier, P., 13.
Congo, Belgian.—Hussakof, L., 6; Ledoux, A., 2; Leriche, M., 4.
——, ——, minerals.—Bain, H. F., 5; Buttgenbach, H.
——, French.—Delhaye, F., 2 & 3; Dollo, L.; Lacroix, A., 22.
——, Portuguese.—Leriche, M., 9.
Congress, Fédération Archeologique et Historique de Belgique, 1913.—Fraipont, C., 4.
——, International Geological, Toronto, 1913.—Fabrega, P.; Renier, A., 1.
Coniacian, Egypt.—Greco, B., 4.
Coniferales, Mesozoic.—Walkom, A. B., 3.
——, Pleistocene.—Knowlton, F. H., 2.
Coniopteris.—Walkom, A. B., 2 & 7; Wieland, G. R., 1.
Coniornis.—Shufeldt, R. W., 2.
Coniscala.—Douvillé, H., 22.
Coniston grits.—Crewdson, Rev. Canon.
Connecticut (U.S.A.).—Barrell, J., 3; Hatch, L.; Lull, R. S., 3; Luther, F. S.; McCurdy, G. G., 1.
——, ore deposits.—Howe, E.
——, water-supply.—Ellis, A. J.; Gregory, H. E., 10.
Connellite.—Ford, W. E., 7.
Connors Range (Queensland).—Ball, L. C., 14.
Conocardium.—Girty, G. H., 2 & 3; Reed, F. R. C., 3; Spriestersbach, J.; Williams, H. S., 2.
Conocoryphe.—Illing, V. C., 1.
Conomitra.—Cossmann, M., 1; Dall, W. H., 2.
Conopeum.—Faura, M.
Conorbis.—Cossmann, M., 1; Wade, B., 3.
Conotreta.—Reed, F. R. C., 4.
Conradella.—Savage, T. E., 4.
Constance, Lake of.—Baumann, E.
Contact metamorphic ore deposits.—Higgins, D. F.; Lacroix, A., 57; Prescott, B., 1.
—— metamorphism.—Berghell, H., 2; Brock, R. W., 2; Brouwer, H. A., 1; Hall, A. L., 1; Hess, F. L., 3; Hœvig, P., 2; Hugi, E.; Lacroix, A., 28 & 42; Leith, C. K., 2; McIntosh, D. S., 1; Quensel, P., 5 & 6; Sederholm, J. J., 4; Suginome, B.; Twenhofel, W. H., 5; Uglow, W. L., 2.
—— minerals, Avigliana, Piedmont.—Lincio, G., 3.
—— rocks, Switzerland.—Arndt, H.; Heim, Arn., 3.
—— zone, of Alps & Apennines.—Preller, C. S. du R., 9.
Continental shelf, Indian Ocean.—Ziemendorff, G.
—— —— & slope, deposition on.—Cotton, C. A., 5.
Continentality, temperature &.—Brooks, C. E. P., 1 & 2.
Continents, deficiency & excess of weight on.—Belot, E., 2.
——, geology of.—Coleman, A. P., 7.
——, origin of.—Belot, E., 1 & 3; Schuchert, C., 5.
Contorted zones, New York.—Miller, W. J., 1.
Contra Costa Hills (California).—Clark, B. L., 2.
Conularia.—Diener, C.; Fuchs, A.; Girty, G. H., 1; Trechmann, C. T., 2; Williams, M. Y., 4.
Conulopsis.—Hawkins, H. L., 8.
Conulus.—Hawkins, H. L., 3, 7 & 10.
Conus.—Bell, A., 5; Chapman, F., 12; Dall, W. H., 2 & 5; Dickerson, R. E., 5; Llueca, F. G.; Marshall, P., 13; Waring, C. A.
Cookeite.—Doelter, C., 2; Lacroix, A., 18.

Cookeville (Tennessee).—Merrill, G. P., 9.
Cooktown dist. (Queensland).—Saint-Smith, E. C., 3.
Coolgardie goldfield (Western Australia).—Feldtmann, F. R., 2–4; Honman, C. S., 1–3 & 5; Jutson, J. T., 1 & 6.
Cooma dist. (N.S.W.).—Browne, W. R.
Coosia.—Mansuy, H., 3.
Copačeni (Roumania).—Botez, G., 1.
Copenhagen (Denmark).—Jensen, A., 3.
Copeton (N.S.W.).—Cotton, L. A., 2.
Copeza.—Lull, R. S., 3.
Copford (Essex).—Newton, E. T., 2.
Copiapo (Chile).—Brueggen, J., 2; Endter, A.
Copper, Arizona.—Blackner, L. A.; Bonillas, Y. S.; Irving, J.; Joralemon, I. B.; Scotland, P. B.
——, Bechuanaland.—McDowell, B.
——, Belgian Congo.—Bain, H. F., 5.
——, British Columbia.—Brewer, W. M., 13; Dolmage, V., 1 & 2.
——, California.—Boyle, A. C., *fil.*
——, Canada.—*See* CANADA, 3.
——, Chile.—Endter, A.; Grandon, A. F.; Matta, J. G., 1.
——, Japan.—Kato, T., 4.
——, Lake Superior.—Schaller, W. T., 1.
——, Maryland.—Butler, B. S., 8; Overbeck, R. M.; Tolman, C. F. *fil.*, 1.
——, Mexico.—Espinosa, L. C., 1; Lopez, L.; Peña, M., 2; Villafaña, A., 2; *see also* MEXICO, 5.
——, Montana.—Bard, D. C.
——, Mysore.—Venkataramaiya, B. N., 2.
——, Namaqualand.—Jenkins, F. W.; Rogers, A. W., 6 & 8; Versfeld, W., 3.
——, Nevada.—Whitman, A. R.
——, New Mexico.—Somers, R. E.; Turner, H. W., 3.
——, New South Wales.—Andrews, E. C., 2; Murray, R. M.
——, Oklahoma.—Fath, A. E., 1.
——, Ontario.—Knight, C. W., 1 & 2; Parsons, A. L., 5; Roberts, H. M.; Walker, T. L., 1.
——, Philippine Is.—*See* PHILIPPINE ISLANDS, 2.
——, Queensland.—Ball, L. C., 1, 8, 11 & 16; Corbould, W. H.; Reid, J. H., 2 & 3; Saint-Smith, E. C., 4.
——, Russia.—Eskola, P., 3; Stickney, A. W., 1 & 2.
——, Santo Domingo.—Donnelly, T. F.
——, S. Africa.—Goodchild, W. H., 5.
——, S. Australia.—Connor, J. D.; Jack, R. Lockhart, 2; Ward, L. K; *see also* SOUTH AUSTRALIA, 7–12.
Copper, Sweden.—Igelstrœm, L. J.; Svedmark, E.
——, Sze-Chuan, China.—Way, H. W. L.
——, Texas.—Richard, L. M.
——, United States (S. W.).—Tovote, W.
——, Utah.—Beeson, J. J.; Carnahan, T. S.
——, Vancouver I.—Camsell, C., 11.
——, Victoria.—Howitt, A. M., 5.
——, Western Australia.—McKeown, M. R.; Talbot, H. W. B., 3; *see also* WESTERN AUSTRALIA, 12.
——, native.—Anten, J., 1; Nishio, K.
——, precipitation of.—Febles, J. C.
——, production of.—Butler, B. S., 3.
——, ——, Canada.—*See* CANADA, 8.
——, ——, United States.—Brooks, A. H., 1; Dunlop, J. P., 1; Gerry, C. N.; Heikes, V. C., 1–4; Henderson, C. W., 1–3; Hill, J. M., 3; Yale, C. G.
——, in soils.—Maquenne, L.
——, sulphides of.—Posnjak, E., 1; MacLaughlin, D. H., 1.
Copper mines, of the World.—Weed, W. H.
—— Mountain (Alaska).—Wright, C. W.
—— ores.—Fulton, C. H.
—— ——, electric smelting of.—Dewar, W., 2; Lyon, D. A.
—— ——, enrichment of.—Atwood, W. W., 2 & 3; Blackwelder, E., 7; Clark, J. D., 1; Thomae, W. F. A.; Young, S. W., 1; Zies, E. G.
—— ——, origin of 'Red Beds' type.—Rogers, A. F., 4.
—— ——, platinum, palladium & iridium in.—Mingaye, J. C. H., 1.
—— ——, potash in.—Butler, B. S., 1.
—— ——, smelting of.—Ossa, I. D., 2.
Copperia.—Walcott, C. D., 2.
Coppice Colliery (Staffordshire).—Cockin, G. M.
Coprolites, Cambridge.—Kingston, A.
——, of Reptilia.—Woodward, A. S., 22.
Coptochetus.—Marshall, P., 13.
Coptosoma.—Clark, W. B., 3.
Coptothyris.—Jackson, J. W., 3.
Coquimbo (Chile).—Ossa, I. D., 1.
CORA, G., *Obit.*—*See* Sacco, F., 9.
Coracoid, the true.—Lydekker, R., 2.
Coral Islands, Indian Ocean.—Dakin, W. J.
—— reefs, Bahamas, Vaughan, T. W., 1–3, 5, 7 & 8.
——, Cent. America & W. Indies.—Vaughan, T. W., 12 & 13.
——, Fiji Is.—Andrews, E. C., 7.
——, Murray I.—Mayor, A. G., 1.

Coral reefs, formation of.—Cary, L. R., 1 & 2; Daly, R. A., 9 & 16; Davis, W. M., 2, 3, 5–10, 15, & 17–19.
——, glacial control of.—Daly, R. A., 6 & 16; Holmes, A., 8.
——, growth rate of.—Mayor, A. G., 4; Vaughan, T. W., 5 & 8.
——, isostasy &.—Molengraaff, G. A. F., 2.
——, origin of.—Skeats, E. W., 5 & 6.
——, Palæozoic.—Brown, T. C., 3.
——, submarine banks &.—Davis, W. M., 18.
——, *see also* Atolls.
—— rocks, changes in.—Cullis, C. G., 1.
Corallinaceæ, Indian Ocean.—Lemoine, Mme. P.
Coralline Crag.—Harmer, F. W., 1; Moir, J. R., 7.
Coralliophaga & *Coralliophila*.—Dall, W. H., 2.
Corals, development of.—Jourdy, E., 3.
——, homœomorphy in.—Lang, W. D., 7.
——, Recent, compared with Stromatopores.—Dehorne, Y., 8.
——. *See also* Anthozoa.
Corax.—Greco, B., 3; Priem, F., 6.
Corbicula.—Newton, R. B., 2; Odhner, N. H., 2.
Corbis.—Cossmann, M., 5; Spitz, A., 1.
Corbula.—Cossmann, M., 1 & 8; Dall, W. H., 2; Das-Gupta, H. C., 2; Dickerson, R. E., 5, 6 & 9; Fourtau, R., 4; Fucini, A.; Greco, B., 4; Marshall, P., 13; Martin, K.; Moody, C. L., 1; Nœrregaard, E. M., 1; Waring, C. A.
Corbulomya.—Cossmann, M., 8.
Cordaianthus.—Stopes, M. C., 1.
Cordaites.—Arber, E. A. N., 8; Stopes, M. C., 1.
Cordillera, N. American.—*See* Rocky Mountains.
Cordoba, Prov. (Argentina).—Bado, A. A., 1; Castellanos, A.; Doering, A.; Frenguelli, J.
Cordoba, Sierra de (Spain).—Hernandez-Pacheco, E., 3 & 4.
Cordierite.—Anten, J., 5; Chacko, I. C., 1; Doelter, C., 2; Flink, G., 4; Mawson, Sir D. 1; Rankin, G. A., 3.
Corentyne Coast, British Guiana.—*See* BRITISH GUIANA, 9.
Cornetia.—Cossmann, M., 1.
Corneto-Tarquinia (Rome).—Meli, R., 1.
Cornulites.—Chapman, F., 9; Savage, T. E., 4; Williams, H. S., 2.
Cornus.—Baumberger, E., 2; Reid, C., 6.
CORNWALL, H. B., *Obit*.—*See* Anon., 18.
Cornwall.—Angwin, B.; Dewey, H., 1, & 3–5; Lowe, H. J., 4.
——, faulting in.—Fern, J. B.
——, flint implements in.—Cardew, C. E.; Kendall, H. G. O., 2; Marsden, J. G.
——, gold in.—Edwards, H.; Symons, B.
——, iron ores.—Cantrill, T. C., 7.
——, minerals.—Broun, W. F. McB.; Collins, J. H., 1, 4 & 5; Penrose, R. A. F., *fil.*, 1.
——, Royal Geological Society of.—Collins, J. H., 3.
——, tin ores & mining in.—Beringer, J. J., 1 & 2; Nichols, H. G.; Pearce, R.; Philip, J. C.; Reid, C., 3; Whitley, D. G.
Cornwallite.—Doelter, C., 1.
Coronaria.—Trechmann, C. T., 2.
Correlation, diastrophism &.—Thomson, J. A., 10.
——, by fossil vertebrates.—Matthew, W. D., 4; Woodward, A. S., 3 & 9.
——, in geology.—Schuchert, C., 7.
——, of strata.—Gregorio, A. de, 1.
——, use of fossils in.—Knowlton, F. H., 1; Ulrich, E. O., 3.
Corresponding Societies, work & aims of.—Hopkinson, J., 4.
Corrie Burn (Stirlingshire).—Macnair, P., 3.
Corrosion, of quartz phenocrysts.—Holmquist, P. J., 1.
——. *See also* Lapiesation.
Corsica.—Gignoux, M., 3.
CORSTORPHINE, G. S., *Obit*.—*See* Anon., 19.
Corundum.—Barlow, A. E.
—— deposits, Madagascar.—Ungemach, H., 1.
—— ——, Mexico.—Castro, C., 1.
—— ——, Mysore.—Jayaram, B., 3.
—— ——, Transvaal.—Wagner, P. A., 8.
——, assay of.—Hutchinson, W. S.
Corundum-aplite, Natal.—Du Toit, A. L., 9.
Corvipes.—Lull, R. S., 3.
Corylopsis.—Reid, C., 6.
Corylus.—Reid, C., 6; Welsch, J., 1.
Corymbites.—Wickham, H. F., 1.
Corynexochus.—Illing, V. C., 1; Nicholas, T. C., 2; Walcott, C. D., 5 & 8.
Corythosaurus.—Brown, B., 3 & 6.
Cosalite.—Lacroix. A., 65.
Coscinocyathus.—Douvillé, H., 4.
Cosenza (Italy).—Gregorio, A. de, 5.
Cosmoceras.—Krenkel, E.; Swinnerton, H. H., 4.
Cosmoceratidæ, evolution of the.—Douvillé, H., 19.
Cosmogony, theories of.—Jeans, J. H., 1.
Costa di Sulla (Sicily).—Gregorio, A. de, 5.

Costa Rica (W. Indies).—Jackson, R. T.

Costæ, development of, in Perisphinctinæ.—O'Connell, M.

Costirhynchia.—Buckman, S. S., 4.

Cotefield Close (Durham).—Woolacott, D., 2.

Cotencher, Grotte de (Switzerland).—Lardy, E.; Stehlin, H. G., 6.

Cotentin, Col de (Normandy).—Bigot, A., 5.

Cotes-du-Nord, Dept. (France).—Daniel, L.; Kerforne, F., 4.

Cotinus.—Knowlton, F. H., 4.

Cotoneaster.—Reid, C., 5.

Cottaldia.—Clark, W. B., 3.

Cotteswold Hills.—Richardson, L., 9.

Cottonwood mining dist. (Utah).—Butler, B. S., 7.

Cotylosauria, Permo-Triassic.—Boulenger, G. A., 1; Williston, S. W., 6.

Courmayeur (Piedmont).—Franchi, S., 4.

Courville (Marne).—Charpiat, R., 6.

Couvinian, Belgium.—Mailleux, E., 1.

Covellite.—Allen, E. T., 2; Merwin, H. E., 1; Thompson, A. P.

Covery (Switzerland).—Monnier, A.

Covey Hill (Quebec).—Goldthwait, J. W., 1.

Cow Bay (Nova Scotia).—McIntosh, D. S., 3.

Cowcroft (Bucks.).—Barrow, G., 3 & 9.

Cowlitz Phase, Tejon Group.—Dickerson, R. E., 5.

—— River Valley (Washington).—Weaver, C. E., 1.

Crabs, fossil.—Rathbun, M. J., 1–4.

Cradle Mt. dist. (Tasmania).—Benson, W. N., 8.

Crag, E. Anglia.—Bell, A., 1; Boswell, P. G. H., 4.

Craigbeg (Aberdeenshire).—Mackie, W.

Cranbrook dist. (B.C.).—Schofield, S. J., 2.

Cranæna.—Weller, S., 1.

Crandallite.—Loughlin, G. F., 6.

Crania.—Girty, G. H., 1; Morgan, J. de, 2; Thomson, J. A., 8; Weller, S., 1; Williams, H. S., 2.

Cranial elements, in Tetrapoda.—Gregory. W. K., 6.

Craspedostoma.—Chapman, F., 6.

Crassatella.—Fourtau, R., 4; Greco, B., 4; Llueca, F. G.

Crassatellites.—Dall, W. H., 2 & 5; Dickerson, R. E., 3, 5 & 6; Waring, C. A.

Crassidonta.—Branson, E. B., 3.

Cratacanthus.—Wickham, H. F., 3.

Cratægus.—Knowlton, F. H., 4; Sangiorgi, D., 2.

Crater lake, Pavin, Auvergne.—Glangeaud, P., 3.

—— ——, Taal volcano, Philippine Is.—Heise, G. W., 6.

Craticularia.—Oppliger, F.

Crawfordjohn (Lanarkshire).—Scott, A., 2.

Cray R. (Kent).—Chandler, R. H., 1.

Crayford (Kent).—Chandler, R. H., 3 & 5.

Creation, Babylonian accounts of the.—Pinches, T. G.

Credneria.—Kryshtofovich, A., 2.

Creedite.—Larsen, E. S., 4.

Crenilobium.—Marshall, P., 13.

Creodonta, Eocene.—Matthew, W. D., 11.

Creonella.—Wade, B., 3.

Crepicephalus.—Walcott, C. D., 3, 7 & 8.

Crepidula.—Cerulli-Irelli, S., 1; Clark, B. L., 1; Dickerson, R. E., 5, 6 & 9.

Crepis.—Reid, C., 6.

Crestmore (California). Eakle, A. S., 1 & 2.

Cretaceous, Alabama.—Berry, E. W., 19; Hager, D., 4.

——, Alberta.—Brown, B., 1–4; Dowling, D. B., 7; Lambe, L. M., 1, 3–5 & 7; McLearn, F. H., 2, 4 & 8; Matthew, W. D., 3; Parks, W. A., 3; Sinclair, J. H., 1; Sternberg, C. H.; Stewart, J. S., 4; Woodward, A. S., 14.

——, Algeria.—Dalloni, M., 5; Joleaud, L., 2.

——, Alps.—Lapparent, J. de, 2; Rollier, L., 10.

——, Angola.—Gregory, J. W., 34; Newton, R. B., 9.

——, Argentina.—Windhausen, A., 2.

——, Atlantic Coast, U.S.A.—Clark, W. B., 2.

——, Atlas Mts., Morocco.—Gentil, L., 1.

——, Belgium.—Cornet, J., 1–4; Halet, F., 2.

——, Berkshire.—Hawkins, H. L., 11.

——, Bohemia.—Bayer, F., 1 & 2.

——, Bolivia.—Schiller, W.

——, Bornholm I.—Ravn, J. P. J., 2 & 3.

——, California.—Dickerson, R. E., 8; Nomland, J. O., 1; Packard, E. L., 1; Waring, C. A.

——, Central Tibet.—Douvillé, H., 22.

——, Colorado.—Cockerell, T. D. A., 11; Lee, W. T., 2.

——, Denmark,—Nielsen, K. B., 1, 3 & 4.

——, Egypt.—Barthoux, J., 2; Fourtau, R., 4; Greco, B., 2–4; Priem, F., 6; Stefanini, G., 4.

——, France.—Cossmann, M., 5 & 6.

——, —— (S.).—Kilian, W., 7 & 8; Repelin, J., 2 & 3; Sayn, G., 1.

——, Gt. Britain.—Allen H. A., 1 & 2; Ellis, D., 1; Stopes, M. C., 2, 4 & 6.

Cretaceous, Greece.—Négris, P., 2.
——, Greenland.—Fritel, P. H., 4; Ravn, J. P., J. 5.
——, Himalaya.—Spitz, A., 1.
——, India.—Fourtau, R., 6; Vredenburg, E. W.
——, Isle of Wight.—Brydone, R. M., 4, 6 & 7.
——, Italy.—Canavari, M., 3; Erasmo, G. d', 1; Parona, C. F., 4.
——, Japan.—Hayasaka, I., 2; Yabe, H., 2; Yehara, S., 1.
——, Kansas.—Williston, S. W., 9.
——, Karakoram Range.—Parona, C. F., 9; Stefanini, G., 2 & 3.
——, Kent.—Baker, H. A., 3; Lamplugh, G. W., 3.
——, Montana.—Bowen, C. F., 4; Stebinger, E., 1; Sternberg, C. H.
——, New Jersey.—Berry, E. W., 6.
——, New Mexico.—Lee, W. T., 2.
——, New South Wales.—Chapman, F., 2; Newton, R. B., 2.
——, New Zealand.—Cotton, C. A., 10; Marshall, P., 5; Morgan, P. G., 2; Park, J., 3; Trechmann, C. T., 5.
——, N. America.—Fritel, P. H., 4; Osborn, H. F., 2; Stephenson, L. W., 3.
——, Norway.—Vogt, T., 3.
——, Oxfordshire.—Odling, M., 2.
——, Palestine.—Repelin, J., 5.
——, Pyrenees.—Lapparent, J. de, 2–4; Stuart-Menteath, P. W., 2.
——, Queensland.—Etheridge, R., *fil.*, 6; Tillyard, R. J., 3; Walkom, A. B., 4.
——, Russia.—Chirvinski, P. N., 2.
——, Sakhalin I.—Kryshtofovich, A. N., 1 & 2.
——, Savoy.—Douvillé, H., 20.
——, S. Africa.—Chapman, F., 13; Schwarz, E. H. L., 1.
——, South Dakota.—Rathbun, M. J., 2.
——, Sussex.—Brydone, R. M., 1.
——, Sweden.—Nielsen, K. B., 5; Wiman, C., 5.
——, Switzerland.—Buxtorf, A., 3.
——, Syria.—Hussakof, L., 4.
——, Tennessee.—Wade, B., 1–3.
——, Tripoli.—Checchia-Rispoli, G., 1.
——, United States.—Berry, E. W., 4; Lee, W. T., 1 & 2; Mook, C. C., 3 & 4.
——, Western Australia.—Chapman, F., 18.
——, Wyoming.—Gilmore, C. W., 5 & 6; Lull, R. S., 2.
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Cretaceous flint, origin of.—Richardson, W. A., 1.
—— period, growth of bone in.—Moodie, R. L., 10.
—— sands, andalusite in.—Davies, G. M., 1.
Cretaceous seas, Switzerland.—Rollier, L., 9.
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—— —— terminology, New Zealand.—Thomson, J. A., 10.
Crevices, in oil sands.—Shaw, E. W., 13.
Crewkerne (Somerset).—Richardson, L., 8 & 10.
Cribrendoecium.—Canu, F., 11.
Cribrilina.—Brydone, R. M., 3; Canu, F., 5; Faura, M.
'Cribrimorph' Polyzoa.—Lang, W. D., 2 & 8.
Crick, G. C., *Obit.*—*See* Harker, A., 6; & Woodward, B. B., 3.
Cricotus.—Case, E. C., 2.
Crimea.—Chirvinski, P., 3; Lysakowski, C. de.
Crinnis mine (Cornwall).—Drugman, J.
Crinoidea, Carboniferous.—Wright, J. *fil.*, 2.
——, Cretaceous.—Nielsen, K. B., 1 & 2.
——, Eocene.—Bather, F. A., 8.
——, habitat of.—Clark, A. H., 2.
——, Jurassic.—Springer, F., 2.
——, morphology.—Bather, F. A., 9 & 14; Wilson, H. E.
——, recent & fossil.—Clark, A. H., 1.
——, Silurian.—Springer, F., 1.
——, Triassic.—Bather, F. A., 7.
Criposcala.—Cossmann, M., 1.
Cripple Creek (Colorado).—Burrell, G. A.
Cristellaria.—Chapman, F., 13 & 18; Cushman, J. A., 1; Spitz, A., 1.
Cristivomer.—Hussakof, L., 5.
Cristobalite.—Ferguson, J. B., 2; Le Chatelier, H., 3; Rogers, A. F., 7.
Croatia.—Dainelli, G.
Crockenhill (Kent).—Priest, S., 2.
Crocodilus.—Fourtau, R., 5.
Cromerian.—Hinton, M. A. C., 1.
Cromyocrinus.—Wright, J., *fil.*, 2.
Cronstad (S. Africa).—Prior, G. T., 1.
Crookes, Sir W., *Obit.*—*See* Anon., 20; Berthelot, D.; & Kunz, G. F., 2.
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Crowsnest coalfield (Alberta).—MacKenzie, J. D., 1 & 3; McLearn, F. H., 2 & 4; Rose, B., 6 & 8; Rice, G. S., 1.
Croxteth Park (Lancs.)—Hickling, G., 5.
Croydon (Surrey).—Davies, G. M., 2; Latham, B.; Whitaker, W., 6.

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Crustacea, Cretaceous.—Etheridge, R., *fil.*, 6.

——, Palæozoic, bibliography.—Vogdes, A. W.,

Cruziana.—Sampelayo, P. H., 1.

Cryolite, Greenland.—Bernard, C. P.

——, production of.—Burchard, E. F., 4.

Cryphœus.—Kegel, W.

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Cryptagriotes.—Wickham, H. F., 1.

Cryptoconus.—Cossmann, M., 1.

Cryptograptus.—Hadding, A., 2; Jehu, T. J., 3.

Cryptohypnus.—Wickham, H. F., 1.

Cryptomya.—Nomland, J. O., 5.

Cryptonella.—Kegel, W.

Cryptophragmus.—Raymond, P. E., 2.

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Cryptorhynchia.—Buckman, S. S., 4.

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Crystal aggregates, of native arsenic.—Ichikawa, S., 2.

——faces, index numbers of.—Panebianco, R., 2.

—— forces.—Wright, F. E., 8.

—— optics, solution of problems in.—Warren, C. H., 1.

—— structure, X-rays &.—Friedel, G., 1 & 3; Panebianco, R., 1; Quensel, P., 1.

—— surfaces, exhalations from.—Knudsen, M.

Crystalline cylinders, stress-strain relations in.—Bridgman, P. W., 2.

—— rocks, Belgian Congo.—Ledoux, A., 2.

—— ——, Calabria.—Chelussi, I.

—— ——, Dent de Morcles.—Hartmann, P.

—— ——, Lappland.—Quensel, P., 3–5.

—— ——, Liguria.—Preller, C. S. du R. 10 & 11; Termier, P., 12.

—— ——, Monte Colmine.—Lincio, G., 1.

—— ——, Piedmont.—Preller, C. S. du R., 7 & 8.

—— ——, Portugal.—Souza-Brandão, V., 7.

—— ——, Sweden.—Backlund, H., 6; Gavelin, A., 4 & 5; Holmquist, P. J., 6.

—— ——, Switzerland.—Lugeon, M., 2.

—— schists, of Alps.—Bonney, T. G., 8.

—— ——, Terra del Fuego.—Millosevich, F., 2.

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Crystallisation, development of cellular structure during.—Dauzère, C., 1.

——, rate of.—Padoa, M.

——, in silicate liquids.—Bowen, N. L., 1.

——, of sulphide ores.—Carstens, C. W., 1.

Crystallographic axes.—Panebianco, H; Panebianco, R., 4.

—— formulæ.—Panebianco, R., 5.

—— intergrowths.—Goodchild, W. H., 1; Ray, J. C.; Segall, J.

—— relations, law of valency-volumes &.—Barlow, W.

Crystallography.—Beale, Sir W. P.; Liebisch, T.; Tutton, A. E. H., 1 & 2; Viola, C., 1 & 4; Woyno, T. J.

——, numerical data in.—Spencer, L. J., 1.

——, projection methods in.—Hilton, H., 1 & 2.

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——, biaxial, optical constants of.—Weber, L., 1 & 2.

——, calculation of.—Smith, G. F. H., 3.

——, cavities in.—Bridgman, P. W., 1.

——, cleavage angle in.—Hilton, H., 3.

——, compound.—Aminoff, G., 4; Viola, C., 5 & 7; Zambonini, F., 3.

——, delineation of.—Blake, J. M., 2–5.

——, diffraction of X-rays by.—Friedel, G., 3.

——, growth of.—Blake, J. M., 1; Friedel, G., 2; Gaubert, P., 2; Taber, S., 1 & 4; Winter, J. G.; Wright, F. E., 14.

——, of ice.—Dobrowolski, A. B.

——, laws of formation.—Viola, C., 6 & 9.

——, linear force of growing.—Becker, G. F., 4.

——, minute, measurement of refractive indices in.—Wright, F. E., 4.

——, of mixed metallic oxides.—Hedvall, J. A.

——, orientation of anisotropic liquids on.—Grandjean, F., 1–3.

——, structure of.—Bragg, W. H., 1–5; Crehore, A. C., 1 & 2; Johnsen, A.; Niggli, P., 2; Ogg, A.; Vegard, L., 1 & 2.

——, twin.—Evans, J. W., 7; Viola, C., 8.

Ctenacanthus.—Branson, E. B., 3; Eastman, C. R., 2; Tolmatcheff, I. P.

Ctenis.—Mœller, H.

Ctenobolbina.—Williams, H. S., 2.

Ctenodonta.—Dunlop, R., 2; Hede, J. E., 3; Kegel, W.; Reed, F. R. C., 3; Savage, T. E., 4; Spriestersbach, J.; Stefani, C. de, 4; Trowbridge, A. C., 3; Williams, M. Y., 11.
Ctenophyllum.—Knowlton, F. H., 5.
Ctenostreon.—Krenkel, E.; Newton, R. B., 5; Rollier, L., 3 & 4.
Cuba.—Allen, G. M., 2; Miller, G. S., 2; Vaughan, T. W., 12.
——, iron ores.—Kemp, J. F., 1 & 2; Leith, C. K., 7; Lindgren, W., 11; Roesler, M.; Singewald, J. T., *fil.*, 3.
Cucullœa.—Cossmann, M., 5; Krenkel, E.; Spitz, A., 1; Waring, C. A.
Cuculella.—Fuchs, A.
Cucigliana (Italy).—Campana, D. del, 1 & 3.
Cuenca (Spain).—Aguilar, J. J. de.
Cuesmes (Belgium).—Leriche, M., 3.
Cuffley (Herts.).—Barrow, G., 2.
Culberson County (Texas).—Phillips, W. B., 4.
Culex.—Cockerell, T. D. A., 14.
Culm, Bear I., Arctic.—Antevs, E., 10.
Cumberland (England).—Holmes, T. V.
—— (—), iron ores.—Cantrill, T. C., 7; Smith, Bernard, 5.
Cumberland (Maryland.—*See* SMITHSONIAN INSTITUTION, 1 & 2.
Cumberland dist. (Rhode Island).—Warren, C. H., 3.
Cumbrae Is. (Scotland).—Tyrrell, G. W., 13.
Cumengite.—Hadding, A., 5.
Cuneirhynchia.—Buckman, S. S., 4.
Cunninghamites.—Fucini, A.
Cupressinoxylon.—Stopes, M. C., 2.
Cupressites.—Matson, G. C., 3.
Cupressocrinus.—Bather, F. A., 21.
Cupularia.—Canu, F., 4 & 13; Faura, M.
Curienne-La Thuile Massif (Savoy).—Lemoine, E.
Currents, Gulf of Manaar.—Waring, F. J.
——, Lake Ontario.—Kindle, E. M., 1.
——, Straits of Dover.—Salomon, M. L.
——, ocean, dispersion of marine organisms by.—Pelseneer, P.
Curtirhynchia.—Buckman, S. S., 4.
Cushing oilfield (Oklahoma).—Beal, C. H.; Buttram, F., 2.
Cuspidaria.—Mansuy, H., 1.
Custerite.—Schaller, W. T., 3.
Cuttingsville (Vermont).—Eggleston, J. W.
Cuyama Valley (California).—English, W. A., 2,
Cuyuna dist. (Minnesota).—Appleby, W. R.; Harder, E. C., 3 & 5.
Cuzco Valley (Peru).—Gregory, H. E., 6.
Cyanotrichite.—Colomba, L., 4.
Cyathidium.—Nielsen, K. B., 1.
Cyathocidaris.—Checchia-Rispoli, G., 11.
Cyathocrinus.—Stefani, C. de, 4.
Cyathodonta.—Clark, B. L., 5.
Cyathomorpha.—Vaughan, T. W., 12.
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Cybium.—Parona, C. F., 6; Priem, F., 1, 4 & 6.
Cycadeoidea.—Stopes, M. C., 2; Wieland, G. R., 3.
Cycadeospermum.—Lozano, E. D., 2.
Cycadites.—Fucini, A.; Walkom, A. B., 7.
Cycadolepis.—Lozano, E. D., 1; Wieland, G. R., 1; Zeiller, C. R., 2.
Cycadophyta, Carboniferous.—Bassler, H.
——, classification.—Wieland, G. R., 4.
——, floral structures in.—Wieland, G. R., 3.
——, Mesozoic.—Stopes, M. C., 5; Walkom, A. B., 3.
——, phylogeny.—Chamberlain, C. J.
Cycadopteris.—Antevs, E., 6.
Cycadospadix.—Cockerell, T. D. A., 11.
Cyclicopora.—Faura, M.
Cyclocarpum.—Fucini, A.
Cycloceras.—Parks, W. A., 2.
Cycloclypeus.—Newton, R. B., 5; Yabe, H., 7.
Cyclocystoides.—Savage, T. E., 4.
Cyclonema.—Chapman, F., 6; Savage, T. E., 4.
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Cyclopellatia.—Cossmann, M., 5.
Cyclopite.—Franco, S. di., 1.
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Cyclothyris.—Buckman, S. S., 4.
Cyclotosaurus.—Wiman, C., 1.
Cygnus.—Bate, D. M. A., 1.
Cylichna.—Clark, B. L., 5; Ravn, J. P. J., 5; Waring, C. A.
Cylinders, crystalline, stress-strain relations in.—Bridgman, P. W., 2.
Cylindracanthus.—Priem, F., 1.
Cylindrites.—Sampelayo, P. H., 1.
Cymatum.—Dall, W. H., 5.
Cymatorhynchia.—Buckman, S. S., 4.
Cymbiola.—Marshall, P., 13.
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Cymodoceites.—Fritel, P. H., 3.
Cymophane.—Lacroix, A., 65.
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Cynodontia, jaw of.—Petronievics, B. 4.
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Cynognathus.—Petronievics, B., 4.
Cynosuchus.—Haughton, S. H., 6,
Cynthiana Formation.—Miller, A. M., 1.
Cypellia.—Oppliger, F.
Cyperus.—Baumberger, E., 2.
Cyphaspis.—Chapman, F., 5; Hede, J. E., 3; Mansuy, H., 1; Savage, T. E., 4.
Cyphosoma.—Clark, W. B., 3; Fourtau, R., 6.
Cypræa.—Cossmann, M., 1; Dall, W. H., 2; Dickerson, R. E., 5; Harmer, F. W., 2; Martin, K.
Cypricardella.—Dunlop, R., 2; Girty, G. H., 2; Kegel, W.; Spriestersbach, J.; Williams, H. S., 2.
Cypricardia.—Krenkel, E.; Mansuy, H., 1; Onetti, A.
Cypricardinia.—Fuchs, A.; Girty, G. H., 4; Gortani, M., 3; Hede, J. E., 2; Savage, T. E., 4.
Cypricardites.—Williams, H. S., 2.
Cyprina.—Cossmann, M., 5; Fucini, A.; Krenkel, E.; Mansuy, H., 1; Newton, R. B., 1; Nœrregaard, E. M., 1.
Cyrena.—Clark, B. L., 1; Dall, W. H., 2; Fucini, A.
Cyrenaica.—Gregory, J. W., 20; Prever, P. L.
Cyrenopsis.—Newton, R. B., 2.
Cyrtia.—Weller, S., 1.
Cyrtina.—Garwood, E. J., 1; Maillieux, E., 3; Tolmatcheff, I. P.; Weller, S., 1; Williams, H. S., 2.
Cyrtoceras.—Dunlop, R., 2; Girty, G. H., 1; Spriestersbach, J.
Cyrtodaria.—Bell, A., 5; Newton, R. B., 1.
Cyrtodelphis.—Fourtau, R., 5.
Cyrtolitina.—Reed, F. R. C., 3.
Cyrtostropha.—Chapman, F., 6.
Cystidea, Ordovician.—Bather, F. A., 15–19; Hudson, G. H., 1; Reed, F. R. C., 6.
Cystisella.—Canu, F., 11.
Cystothalamia.—Mansuy, H., 2.
Cythere.—Chapman, F., 3, 13 & 16.
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Dadoxylon.—Negri, G., 1.
Daga Shabell (Brit. Somaliland).—Thompson, A. B., 3.
Dahllite.—Doelter, C., 1.
Daiquiri (Cuba).—Kemp, J. F., 2; Lindgren, W., 11; Singewald, J. T., *fil.*, 3.
Dakhla Oasis (Libya).—King, W. J. H., 3.
Dakota, North (U.S.A.).—Leonard, A. G., 1–3; Lloyd, E. R., 1 & 2; Quirke, T. T., 3.
——, South.—Case, E. C., 6; Hussakof, L., 1; Mehl, M. G., 4; Paige, S., 1 & 2; Rathbun, M. J., 2.
——, ——, lignite deposits.—Winchester, D. E., 2.
——, ——, production of metals.—Henderson, C. W., 2.
Dakota Sand, Canada & U.S.A.—Huntley, L. G., 3.
—— Sandstone, Kansas.—Whitaker, W. A.
Dakoticancer.—Rathbun, M. J., 2.
Dal's Ed (Sweden).—Geer, G. de., 1.
Dalbergia.—Knowlton, F. H., 4.
Dale (Norway).—Landmark, J. D.
Dale (Pembrokeshire).—Cantrill, T. C., 5.
Dalecarlia (Sweden).—Geer, S. de, 3; Isberg, O., 1.
Dallas (Texas).—Shaw, E. W., 15.
Dallina.—Thomson, J. A., 6.
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Dalmanella.—Hede, J. E., 3; Howell, J. V.,; Savage, T. E., 4; Trowbridge, A. C., 3; Williams, H. S., 2; Williams, M. Y., 11.
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Damesella.—Mansuy, H., 3.
Dammer I. (E. Indies).—Molengraaff, G. A. F., 3.
Danœopsis.—Walkom, A. B., 2.
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Danian, Denmark.—Nielsen, K. B., 4.
Daniel's Kuil (Griqualand West).—Prior, G. T., 1.
Danielsiella.—Cockerell, T. D. A., 19.
Danilia.—Cerulli-Irelli, S., 2.
Dannemora (Sweden).—Flink, G., 2; Sundius, N., 1.
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Daonella.—Frauenfelder, A.; Mansuy, H., 1; Martin, G. C., 1; Trechmann, C. T., 2.
Dapedoglossus.—Eastman, C. R., 2.
Daphnella.—Cipolla, F.; Marshall, P., 8.
Dar bel Hamri (W. Morocco).—Lecointre, G., 4.
Darbhanga State (India).—Schulten, C.
Dardanelles.—Arabu, N., 1.
Darfur (Sudan).—Hobbs, H. F. C.
Darmsden (Suffolk).—Moir, J. R., 10.
Dartford Heath (Kent).—Leach, A. L., 7.
Dartmoor (Devonshire).—Mennell, F. P., 1 & 4; Worth, R. H., 1.
DARU, N. D., *Obit.*—*See* Hayden, Sir H. H., 12.
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Darwin Glass.—Dunn, E. J., 2; Hills, L., 4.
Darwin mining dist. (N. Terr. S. Australia).—Jensen, H. I., 1.
Daso (Baltistan).—Middlemiss, C. S., 4.
Datchworth (Herts.).—Sherlock, R. L., 7.
Datolite.—Cook, C. W.; Flink, G., 4; Hawkins, A. C., 1; Koechlin, R., 4.
Datta.—Mansuy, H., 1.
Daubensee (Switzerland).—Collet, L. W., 7.
Dauphiné (France).—Bertrand, P., 8; Girardin, P., 2; Kilian, W., 7. Preller, C. S. du R., 5.
Davidite.—Cooke, W. T., 1; Mawson, Sir D., 1.
Daviesiella.—Garwood, E. J., 1.
DAVIS, C. A., *Obit.*—*See* Lane, A. C., 6.
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Dawsonites.—Halle, T. G., 5.
Dawsonoceras.—Savage, T. E., 4; Williams, M. Y., 11.
Dayia.—Hede, J. E., 3; Reed, F. R. C., 4.
Daylesford dist. (Victoria).—Ferguson, W. H., 2.
Dayton (New Mexico).—Richardson, G. B., 1.
De Kaap R. Valley (Transvaal).—Hall, A. L., 2.
Dean, Forest of (Gloucester).—Sibly, T. F., 1 & 2.
Dean's Marsh (Victoria).—Hunter, S., 1.
Death Valley (California).—Rogers, A. F., 10.
Deborah (N.Z.).—Park, J., 5.
Debris, transportation of, by icebergs.—Engeln, O. D. von, 2.
Debris, transportation of, by running water.—Gilbert, G. K.
Decapoda.—Rathbun, M. J., 2–4.
Deccan Trap, India.—Fermor, L. L., 9.
Dechenia.—Spriestersbach, J.
Decticus.—Meunier, F.
Decurtaria.—Lang, W. D., 9.
Dee R. (N. Wales).—Smith, Bernard, 4
—— (Scotland).—Roberts, C. H.
—— (Yorkshire).—Hobson, B., 1.
Deep sea deposits.—Murray, Sir J.; Odén, S., 2.
'Deeps,' in Susquehanna R.—Matthews, E. B.
Deer, prehistoric drawing of.—Woodward, A. S., 23.
Deflation.—Danielsen, D., 2; Delhaes, W.; Jutson, J. T., 7–12; Keyes, C. R., 1.
Deformation, Coast Region, B.C.—Clapp, C. H., 5.
——, Pleistocene, Illinois & Missouri.—Shaw, E. W., 2.
——, ——, Vermont.—Keith, A.
——, post-Ordovician, New York.—Chadwick, G. H., 1.
——, of unconsolidated beds.—Kindle, E. M., 7.
——. *See also* Earth movements.
Dekayia.—Cumings, E. R., 2.
Delegate (N.S.W.).—Mingaye, J. C. H., 3.
DELHAES, W., *Obit.*—*See* Steinmann, G., 4.
Delheidia.—Douvillé, H., 22.
Dellys, Gulf of (Algeria).—Dalloni, M., 7.
Delocrinus.—Girty, G. H., 1.
Delphinosaurus.—Huene, F. von, 2.
Delphinula.—Cossmann, M., 1; Martin, K.
Delphinus.—Fourtau, R., 5.
Delta, Egyptian.—Audebeau Bey, C.
—— formations, Sweden.—Sandler, K.
Deltas, formation of.—Barton, E. C.
Delthyris.—Parks, W. A., 2; Weller, S., 1.
Deltodus.—Branson, E. B., 3; Eastman, C. R., 2.
Deltometopus.—Wickham, H. F., 1.
Deltopecten.—Etheridge, R., *fil.*, 1; Girty, G. H., 1 & 2.
Deluge, Antarctic.—Belot, E., 6.
Delvauxite.—Doelter, C., 1.
Demerara.—*See* BRITISH GUIANA, 7 & 8.
Demostylus.—Merriam, J. C., 6.
Denmark.—Madsen, V., 5; Nielsen, K. B., 1–4; Nœrregaard, E. M., 1 & 2; Ravn, J. P. J., 1–3.
——, diatomaceous earth in.—Manners, E. A.
——, earthquakes in.—Harboe, E. G., 3.
——, Geological Society of.—Hintze, V.

Dendraster.—Clark, W. B., 3.
Dendrites, of manganese, in trachyte.—Becke, F., 4.
Dendrophyllia.—Nomland, J. O., 1 & 4.
Dendrozoum.—Fuchs, A.
Densiphyllum.—Smyth, L. B.
Density, of alluvium.—Collet, L. W., 9.
—— variations of, in relation to geological structure.—Heim, Alb., 3.
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Dent de Morcles (Switzerland).—Gagnebin, E.; Hartmann, P.; Lugeon, M., 3.
Dent du Midi (Switzerland).—Loys, F. de, 1–3.
Dentalium.—Clark, B. L., 5; Dall, W. H., 5; Dunlop, R., 2; Girty, G. H., 1; Marshall, P., 8; Martin, K.; Pilsbry, H. A., 3; Ravn, J. P. J., 5; Stefani, C. de, 4; Trechmann, C. T., 2 & 5; Waring, C. A.
Dentdale (Yorkshire).—Hobson, B., 1.
Dentex.—Priem, F., 1.
Denticula.—Lozano, E. D., 3.
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Denudation.—Gregory, H. E., 5; Jeffreys, H., 4; Shaw, E. W., 6.
——, rain & rivers in.—Bonney, T. G., 1.
——, river, limitations of.—Keyes, C. R., 7.
Denver Basin (Colorado).—Richardson, G. B., 2.
Deposition, in arid regions.—Keyes, C. R., 5–7.
——, in structural depressions.—Hager, D., 1.
——, marine.—Cotton, C. A., 5.
Depression, Sea of Marmora.—Arabu, N., 3.
Depressions, structural, deposition in.—Hager, D., 1.
DERBY, O. A., *Obit.*—*See* Anon., 22; Branner, J. C.; & Woodward, A. S., 8.
Derbyia.—Diener, C.; Etheridge, R., *fil.*, 1; Girty, G. H., 1.
Derbyshire.—Baker, E. A.; Bemrose, H. H.; Day, H., 3; Sargent, H. C., 3.
——, coal measures.—Fearnsides, W. G., 3 & 4; Varney, W. D.
——, gypsum breccia.—Smith, Bernard, 3.
——, iron ores.—Cantrill, T. C., 7.
——, lead mining in.—Stuckey, L. C.
——, petroleum in.—Sington, T.
Derc-Ferna cave (Kilkenny).—Praeger, R. L., 3.
Dereel (Victoria). Dunn, E. J., 4.
Derna (Cyrenaica).—Prever, P. L.
Des Moines Valley (Iowa).—Lees, J. H.
Deschutes R. (Oregon).—Henshaw, F. F., 4.
Desert, Colorado, reclamation of.—Sykes, G.
Desert formations, Permian.—Ferrar, H. T., 1.
—— ranges, scarps in.—Keyes, C. R., 2.
—— sandstones, N.S.W.—Paddison, A.
Deserts.—Gregory, J. W., 14.
——, Mexico.—Wittich, E., 2.
——, erosion in.—Keyes, C. R., 3, 5 & 6; Lawson, A. C., 1.
——, land forms in.—Keyes, C. R., 10.
——, vegetation in.—Schrœter, C.
Desiccation, of the Earth.—Gregory, J. W., 13.
——, in Africa.—Edwardes, H. S. W.; Marais, E. N.; Schwarz, E. H. L., 7.
Désirade R. (Var).—Zurcher, P., 2.
Desmiophyllum.—Mœller, H.
Desmoceras.—Chaput, E.
Desmoceratidæ, classification.—Douvillé, H., 19.
Desmostylus.—Hay, O. P., 3; Matsumoto, H., 6.
Desmoulea.—Harmer, F. W., 2.
Destinezite.—Doelter, C., 1.
Destourbes Mt. (Basses-Alpes).—Guébhard, A., 6 & 7; Kilian, W., 12.
Detrital deposits, Cretaceous, Var.—Repelin, J., 3.
Detroit R. series, Ontario.—Stauffer, C. R., 2.
Deuteromya.—Cossmann, M., 7.
Devillian, Belgium.—Fourmarier, P., 4.
Devils Lake (Wisconsin).—Trowbridge, A. C., 2.
Devitrification, of glass.—Le Chatelier, H., 1.
Devon R. (Scotland).—Rhodes, J. E. W., 3.
Devonaster.—Schuchert, C., 2.
Devonian, America.—Clarke, J. M., 3–5.
——, Alsace.—Lapparent, J. de, 6.
——, Altai Mts.—Tolmatcheff, I. P.
——, Asturias.—Termier, P., 6.
——, Belgium.—Asselbergs, E., 1–3; Bather, F. A., 21; Dubois, J.; Fourmarier, P., 3; Maillieux, E., 1, 4 & 6.
——, Canada.—Kindle, E. M., 5.
——, Carnic Alps.—Gortani, M., 3.
——, Cornwall.—Collins, J. H., 2.
——, Devonshire.—Arber, E. A. N., 8; Evans, J. W., 9; Rogers, I.
——, Falkland Is.—Clarke, J. M., 12.
——, Iowa.—Fenton, C. L.
——, Ireland.—Johnson, T.; Matthew, G. F., 3.
——, Luxembourg.—Maillieux, E., 5.
——, Maine.—Williams, H. S., 2.

Devonian, New South Wales.—Benson, W. N., 6; Chapman, F., 26.
——, New York.—Smith, Burnett, 2; Taber, S., 6.
——, N. America.—Grabau, A. W., 2, 6 & 9; Stauffer, C. R., 5.
——, Norway.—Halle, T. G., 5; Kolderup, C. F., 6; Nathorst, A. G., 2.
——, Ohio & Pennsylvania.—Stauffer, C. R., 3 & 4; Verwiebe, W. A., 3.
——, Ontario.—Stauffer, C. R., 1; Williams, M. Y., 10.
——, Paraguay.—Beder, R.
——, Portugal.—Pruvost, P., 4.
——, Queensland.—Etheridge, R., *fil.*, 6.
Devonian, Rhine Valley.—Fuchs, A.; Spriestersbach, J.
——, Tennessee.—Dunbar, C. O., 2.
——, Tonkin.—Mansuy, H., 1.
——, Victoria.—Chapman, F., 24.
——, West Virginia.—Prosser, C. S., 1.
——, Yunnan.—Mansuy, H., 1.
——. *See also* Old Red Sandstone.
Devonshire.—Arber, E. A. N., 8; Dewey, H., 5; Evans, J. W., 9; Lowe, H. J., 4; Mennell, F. P., 1 & 4; Rogers, I.
——, Ice age in.—Lowe, H. J., 2.
——, igneous rocks.—Smith, H. G., 1.
——, iron ores.—Cantrill, T. C., 7.
——, pitchblende in.—Anon., 116.
Dewlish (Dorset).—Anon., 100; March, H. C.
Dhauli Valley (Cent. Himalaya).—Grinlinton, J. L.
Dholpur State (India).—Heron, A. M., 1.
Diabase, French Guinea.—Hubert H., 1 & 5.
——, Norway.—Suleng, H.
——, Pennsylvania.—Jonas, A. I.
——, Sweden.—Loostrœm, R., 2.
——, Tuscany.—Quercigh, E., 4.
——, scoriaceous.—Emerson, B. K., 2.
Diachila.—Mjœberg, E.
Diacodexis.—Sinclair, W. J., 1.
Diadectes.—Broom, R., 1; Watson, D. M. S., 4.
Diademodon.—Broom, R., 4 & 5; Watson, D. M. S., 3.
Diadetognathus.—Wills, L. J.
Diadochite, Doelter, C., 1.
Diagrams, multiple rock.—Grout, F. F., 6.
Diamenocrinus.—Kegel, W.
Diamond Hill dist. (Victoria.—Whitelaw, H. S., 5.
Diamond Hill-Cumberland dist. (Rhode Island).—Warren, C. H., 3.
Diamonds, Borneo.—Krol, L. H.
——, Brazil.—Crandall, R.
——, Gold Coast.—Kitson, A. E., 4.
Diamonds, New South Wales.—Cotton, L. A., 2.
——, S. Africa.—Schwarz, E. H. L., 3 & 5; Sutton, J. R.
——, S. Rhodesia.—*See* SOUTHERN RHODESIA, 1.
——, action of radium on.—Crookes, Sir W., 1.
——, artificial.—Gregorio, A. de, 7; Parsons, Sir C. A.
——, Bibliography.—Stutzer, O.
——, colours of.—Mennell, F. P., 2.
——, composition.—Colomba, L., 1.
——, crystalline structure.—Crehore, A. C., 2.
——, genesis & formation.—Draper, D., 2; Johnson, W.; Wagner, P. A., 5.
——, minerals associated with.—Hussak, E.
——, testing of.—Van der Lingen, J. S.
Diaperœcia.—Canu, F., 9.
Diaphorostoma.—Chapman, F., 6; Savage, T. E., 4; Williams, M. Y., 11.
Diaphragmus.—Branson, E. B., 5; Girty, G. H., 2; Weller, S., 1.
Diastoma.—Dainelli, G.; Dall, W. H., 5.
Diastrophism, Oceanica.—Schuchert, C., 5.
——, S. France.—Guébhard, A., 29.
——, in classification & correlation.—Thomson, J. A., 10.
——, oil accumulation &.—Daly, M. R., 1.
——, periodic.—Chamberlin, T. C., 2.
Diatinostoma.—Cossmann, M., 5.
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——, British Columbia.—Camsell, C., 12.
——, Denmark.—Manners, E. A.
——, Gt. Britain.—Strahan, Sir A., 14.
——, Lord Howe I.—Howchin, W., 6.
——, Mexico.—Lozano, E. D., 3.
——, Pribilof Is.—Hanna, G. D.
Diatryma.—Matthew, W. D., 15; Shufeldt, R. W., 2.
Dibunophyllum.—Garwood, E. J., 1; Smith, S., 1; Vaughan, A., 1.
Dicellograptus beds, Scania.—Hadding, A., 3.
Diceros.—Matsumoto, H., 8.
Dichocœnia.—Vaughan, T. W., 12.
Dichocrinus.—Wilson, H. E.
Dichodon.—Depéret, C., 5.
Dichopteris.—Antevs, E., 2.
Dicranodonta.—Krenkel, E.
Dicranophyllum.—Stopes, M. C., 1.
Dicrenodus.—Eastman, C. R., 2.
Dicroïdium.—Antevs, E., 1 & 2.
Dicrostonyx.—Peach, B. N.
Dictyograptus beds, Sweden.—Westergård, A. H., 1.

Dictyonema.—Mansuy, H., 1; Williams, M. Y., 11.
Dictyophyllum.—Knowlton, F. H., 5; Mœller, H.; Walkom, A. B., 2 & 5.
Dictyothyris.—Buckman, S. S., 4.
Dictyozamites.—Halle, T. G., 1.
Dicynodon.—Broom, R., 4, 5 & 9; Haughton, S. H., 1 & 3; Lydekker, R., 2; Sollas, I. B. J.
Didelphis.—Gregory, W. K., 5; Matthew, W. D., 3.
Didymictis.—Matthew, W. D., 11.
Didymograptus.—Hall, T. S., 1.
Didymosella.—Canu, F., 11; Faura, M.
Dielasma.—Diener, C.; Girty, G. H., 2; Mansuy, H., 2; Molengraaff, G. A. F., 4; Trechmann, C. T., 2; Weller, S., 1.
Dielasmella & *Dielasmoides.*—Weller, S., 1.
Dientomochilus.—Martin, K.
Differentiation, in magmas.—Loewinson-Lessing, F., 3.
Diffraction, in mica.—Ghose, P. N.
——, phenomena of.—Van der Lingen, J. S.
Digne (Basses-Alpes).—Zurcher, P., 1.
Diictodon.—Broom, R., 5.
Dikelocephalus.—Walcott, C. D., 11.
Diluvium, N. Germany.—Gagel, C.
——, Piedmont.—Craveri, M., 2.
——, Switzerland.—Stingelin, T.
Dimetrodon.—Broom, R., 3; Case, E. C., 1; Watson, D. M. S., 3.
Dimorphoceras.—Girty, G. H., 1.
Dinantian, correlation of, with Avonian.—Vaughan, A., 1.
Dinarides, Alps &.—Schwinner, R.
Dindings, The (Malay Peninsula).—Scrivenor, J. B., 8.
Dinesus.—Chapman, F., 23.
Dinichthys.—Eastman, C. R., 2.
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Dinognathus.—Eastman, C. R., 2.
Dinosauria, Cretaceous.—Lambe, L. M., 1, 3, 4 & 7; Lull, R. S., 2.
——, habitat of.—Mook, C. C., 7.
——, osteology of.—Gilmore, C. W., 1.
——, pathology of.—Moodie, R. L., 9.
——, sacral brain in.—Lull, R. S., 7.
——, sphenoidal sinus in.—Moodie, R. L., 5.
——, tracks of.—Shuler, E. W., 2.
——, Triassic.—Haughton, S. H., 2 & 5; Maufe, H. B., 7; Rogers, A. W., 4.
Dinotherium.—Pavlow, M., 2.
Diodon.—Priem, F., 1, 4 & 6.
Dioon.—Antevs, E., 2.
Diopeus.—Watson, D. M. S., 4 & 5.
Dioplodon.—Pelizzola, C., 2.
Diopside.—Eakle, A. S., 2; Macgregor, A. M., 2; Ungemach, H., 1.
Dioptase. Colomba, L., 4.
Diorite, Somaliland.—Manasse, E., 3.
Diospyros.—Berry, E. W., 18; Colani, M.; Reid, C., 6.
Dip chart.—Bancroft, H.
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——, in marine limestone.—Mather, K. F., 3.
——, measurement of.—Wentworth, C. K.
Diploastrea.—Vaughan, T. W., 12.
Diplodidymia.—Canu, F., 2.
Diplodocus.—Hutchinson, H. N.; Mook, C. C., 6.
Diplodonta.—Anderson, F. M.; Clark, B. L., 1 & 5; Dall, W. H., 2; Dickerson, R. E., 9; Mansfield, W. C.
Diplograptus.—Harris, W. J.; Tœrnquist, S. L., 1.
Diplomystus.—Erasmo, G. d', 1.
Diplopholeos.—Canu, F., 11.
Diplopodia.—Clark, W. B., 3.
Diplopterus.—Gregory, W. K., 1.
Diplothecanthus.—Clark, W. B., 3.
Diplothmena.—Stopes, M. C., 1.
Diplotrypa.—Vinassa de Regny, P., 1 & 3.
Dipnoi, Carboniferous.—Hussakof, L., 3.
Dipoides.—Merriam, J. C., 7.
Dippin (Arran).—Tyrrell, G. W., 7.
Dipsalidictis.—Matthew, W. D., 11.
Dipterocarpoxylon.—Holden, R.
Dipterus.—Eastman, C. R., 2; Gregory, W. K., 1; Watson, D. M. S., 11.
Dipyre.—Werenskiold, W., 3.
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Dirt-partings, in coal seams.—Kendall, P. F., 3.
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Discina.—Diener, C.; Dunlop, R., 2; Fuchs, A.; Spriestersbach, J.
Discinella.—Braastad, J.
Discinisca.—Morgan, J. de, 2.
Discoceras.—Parks, W. A., 2.
Discocyclina.—Douvillé, H., 8.
Discohelix.—Cossmann, M., 5; Morgan, J. de, 1.
Discoidea.—North, F. J., 1.
Discoides.—Hawkins, H. L., 3 & 6.
Discophyllites.—Trechmann, C. T., 2.
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Discorbina.—Chapman, F., 13.
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Discors.—Cossmann, M., 1 & 8.
Diseases, of Dinosauria.—Moodie, R. L., 9.
——, of prehistoric man.—Parry, T. W.
Disgrazia Mt. (Lombardy).—Cornelius, H. P., 1; Sangiorgi, D., 1 & 3.
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Disko I.(Greenland).—Harboe, E. G., 2.
Dislocation, new form of.—Cloos, H., 1.
Dispersion, in carborundum.—Merwin, H. E., 2.
——, seismic.—Marchi, L. de, 1; Oddone, E., 1.
Disphœrocephalus.—Cockerell, T. D. A., 16.
Dissopsalis.—Pilgrim, G. E., 2.
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Distelopora.—Lang, W. D., 1.
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Ditrupa.—Chapman, F., 16.
Divaricella.—Cossmann, M., 8.
Dobrudja (Roumania).—Pamfil, G. P.; Manolescu, S.
Dôle (Jura).—Bourgeat, l' Abbé, 1.
Dolerite, New South Wales.—Benson, W. N., 2.
——, correlation of, with augite-diorite.—Sen Gupta, K. K., 2.
Dolichoderus.—Cockerell, T. D. A., 14.
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Dolichometopus.—Mansuy, H., 3; Walcott, C. D., 5.
"Doline," Italy.—Checchia-Rispoli, G., 5; Crema, C., 2.
Doliolina.—Deprat, J., 2; Molengraaff, G. A. F., 4.
Dolomite, America.—Reed, B. B.
——, Australia & New Zealand.—Morgan, P. G., 4.
——, Leicestershire.—Parsons, L. M., 2.
——, Sweden.—Hedstrœm, H., 1; Svenonius, F., 4.
——, Transvaal.—Young, R. B., 2.
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——, Vermont.—Dale, T. N., 1.
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Dolomitization.—Parsons, L. M., 2; Steidtmann, E., 2.
Dolophilus.—Cockerell, T. D. A., 19.
Dombrova coalfield (Poland).—Gurney, A. E.
Domes, petroliferous, Texas & Louisiana.—Chautard, J.
——, salt, Gulf Coast, U.S.A.—Golyer, E. de, 4; Jones, W. F., 2; Rogers, G. S., 5.
——, structural, Basses-Alpes.—Guébhard, A., 12.
——, ——, Kashmir, Middlemiss, C. S., 2.
——, volcanic, Auvergne.—Glangeaud, P., 8.
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DON, A. W. R., *Obit.*—*See* Harker, A., 4.
Don Valley (Scotland).—Bremner, A., 1.
Donax.—Anderson, F. M.; Chapman, F., 16; Clark, B. L., 5; Cossmann, M., 8.
Doncaster (Yorkshire).—Jordan, A.
Donegal (Ireland).—Cole, G. A. J., 7.
Donnington (Lincs.).—Pringle, J., 2.
Donovania.—Harmer, F. W., 2.
Dookie (Victoria).—Dunn, E. J., 9.
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Dorcabune & Dorcatherium.—Pilgrim, G. E., 7.
Dordogne (France).—Harlé, E., 1 & 2; Reverdin, L.
Dorocidaris.—Checchia-Rispoli, G., 10; Fourtau, R., 6.
Dorsetshire.—Gilchrist, D. A.; Richardson, L., 4, 8 & 9; Wingrave, W.
Dorstenia.—Penhallow, D. P.
Dorypyge.—Nicholas, T. C., 2; Walcott, C. D., 5 & 8.
Dosinia.—Clark, B. L., 1 & 5; Dall, W. H., 2; Fourtau, R., 4; Marshall, P., 8 & 13; Nomland, J. O., 5; Waring, C. A.
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Doulting-Milborne Port dist. (Somerset).—Richardson, L., 6.
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Dove Dale (Derbyshire).—Jackson, J. W., 5 & 6.
Dover, Straits of.—Salomon, M. L.
Dovre (Norway).—Holmsen, G., 5.
Down Hill (Durham).—Woolacott, D., 1.
Downs, Sussex, geological history.—Marriott, R. A., 2.
Downwarping, along joint planes.—Burling, L. D., 5.
Drainage, glacial modification of.—Hausman, L. A.
——, underground, Norway.—Reusch, H., 14.
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Dresbachia.—Walcott, C. D., 3.
Drift, Eastbourne.—Stainier, X., 7.

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——, Illinois.—Savage, T. E., 5.
——, Iowa.—Alden, W. C.; Kay, G. F., 4.
——, Lancashire.—Rhodes, J. E. W., 2.
——, Montreal I., Canada.—Stansfield, J., 1.
——, New Zealand.—Thomson, J. A., 11.
——, North Sea.—Boswell, P. G. H., 11.
——, Ontario.—Johnston, W. A., 1.
——, Worcestershire.—Gray, J. W.
——, glacial, Canada.—Goldthwait, J. W., 3.
——, pre-Wisconsin, N. Dakota.—Leonard, A. G., 2.
——, Scandinavian, Durham Coast.—Trechmann, C. T., 1.
Driftless area, U.S.A.—Martin, L.; Trowbridge, A. C., 1.
Drillia.—Anderson, F. M.; Cipolla, F.; Cossmann, M., 1; Dall, W. H., 2; Dickerson, R. E., 5 & 6; Harmer, F. W., 2; Marshall, P., 13; Martin, K.; Newton, R. B., 1.
Drilluta.—Wade, B., 2.
Drin (Black) R. (Albania).—Dedijer, J.
Dromomeryx.—Merriam, J. C., 15; Sinclair, W. J., 2.
Drumheller (Alberta).—Dowling, D. B., 12.
Drumlins.—Ludwig, A., 2; Quervain, A. de, 5.
Drumlummon mine (Montana).—Goodale, C. W.
Drusy iron crystals.—Berwerth, F., 1.
Dry channels, Glen Lednock.—Scott, A., 7.
—— lakes, Western Australia.—Jutson, J. T., 7–9.
—— valley, France.—Commont, V., 4.
Dryandroides.—Baumberger, E., 2.
'Dryas flora,' in Switzerland.—Nathorst, A. G., 7.
Dryden gold area (Ontario).—Thomson, E., 2.
Dryophyllum.—Colani, M.
Dryopithecus.—Fourtau, R., 5; Gregory, W. K., 5; Pilgrim, G. E., 5.
DRYSDALE, C. W., *Obit.*—*See* Bancroft, J. A., 3.
Duab, Turkestan.—Rickmers, W. R.
Dublin Gulch (Yukon Terr.).—Cairnes, D. D., 8.
Ducktown (Tennessee).—Taylor, J. H.
Dufrenite.—Doelter, C., 1; Koechlin, R., 2.
Dugwin (W. Africa).—Ford, S. H.
Dulichium.—Reid, C., 6.
Duluth gabbro, Minnesota.—Broderick., T. M., 2 & 3; Grout, F. F., 2–4; Nebel, M. L., 2.
Dumbartonshire.—Hinxman, L. W., 2.
Dumfriesshire.—Horne, J., 8; Smith, G. F. H., 4.
Dumortieria.—Zuffardi, P., 1.
Dumortierite.—Doelter, C., 2.
Dunbeath (Caithness).—Sutherland, A.
Duncan dist. (Vancouver I.).—Clapp, C. H., 7 & 8.
Duncan gasfield (Oklahoma).—Wegemann, C. H., 5.
Dundas (N.S.W.).—Benson, W. N., 1.
Dundas goldfield (Western Australia).—Honman, C. S., 4.
Dunes, Cornwall.—Rogers, W.
——, Gascony.—Cayeux, L., 5; Harlé, E., 4 & 5.
——, Holland.—Versluys, J.
——, Libya.—King, W. J. H., 4.
——, New South Wales.—Andrews, E. C., 10.
——, Peru.—Barclay, W. S.
——, Sweden.—Sandler, K.
——, Victoria.—Mahony, D. J., 2.
——, Western Australia.—Jutson, J. T., 9 & 12.
——, coastal, & rise of sea level.—Sanford, S.
——, formation of.—Abbott, C. C.; Carey, A. E.; Case, G. O.; King, W. J. H., 1; Whitehead, W. A.
——, shell-formed.—Villain, P.
Dunkard series, Ohio.—Stauffer, C. R., 3.
DUNLOP, A., *Obit.*—*See* Woodward, A. S., 8.
Dunmore cave (Kilkenny).—Praeger, R. L., 3.
Dunstania.—Tillyard, R. J., 1 & 5.
Dunstaniopsis.—Tillyard, R. J., 5.
'Dunstones,' Plymouth.—Worth, R. H., 2.
Duplin Formation, Virginia.—Gardner, J. A.
Dura Den (Fifeshire).—Jehu, T. J., 2; Woodward, A. S., 7.
Durangite.—Doelter, C., 1.
Durango State (Mexico).—Zubiria y Campa, L.
Durania.—Pruvost, P., 1.
Duranus (Maritime Alps).—Orcel, J., 2.
Durham.—Cantrill, T. C., 7; Stobbs, J. T., 5; Trechmann, C. T., 1 & 6; Woolacott, D., 1–4.
D'Urville I. (N.Z.).—Thomson, J. A., 13.
Dust, volcanic.—Arctowski, H.; Buttram, F., 1.
Dustfall, Greece, Eginitis, D., 7.
—— Wisconsin.—Winchell, A. N., 2 & 3.
Dutch East Indies, map of.—Abendanon, E. C.
—— —— ——, mines.—*See* DUTCH EAST INDIES, 1–4.
Dutch New Guinea.—Newton, R. B., 5.
Dwyka series, S.W. Africa.—Wagner, P. A., 1.

Dyke rocks, Clyde Basin.—Tyrrell, G. W., 7 & 12.
—— ——, Finland.—Hackman, V., 1 & 2.
—— ——, French Guinea.—Lacroix, A., 66.
—— ——, Lower Loire Valley.—Lacroix, A., 60.
—— ——, Norway.—Werenskiold, W., 3 & 4.
—— ——, Portugal.—Choffat, P., 3.
—— ——, Transvaal.—Hall, A. L., 2.
—— ——, Tyrol.—Tanton, T. L., 1.
—— ——, copper sulphides in.—McLaughlin, D. H., 1.
—— ——, origin of inclusions in.—Powers, S., 2.
Dyscolia.—Percival, F. G., 1.
Dysprosium.—Kremers, H. C., 1 & 2.

Eagle (Alaska).—Porter, E. A., 1.
Eagle Creek Formation, Oregon.—Chaney, R. W.
Eagle Station (Kentucky).—Prior, G. T., 4.
Eakleite.—Larsen, E. S., 1.
Earn, Loch (Scotland).—Wedderburn, E. M.
Earth, age of the.—Benson, W. N., 11; Holmes, A., 10; Lindemann, F. A.; Stromeyer, C. E.
——, axis of the, & triangulation.—Hunter, J. de G.
——, considered as a heat engine.—Becker, G. F., 2.
——, curvature of the.—Reina, V., 1.
——, desiccation of the.—Gregory, J. W., 13.
——, figure of the.—Almansi, E., 1–3; Anon., 114; Belot, E., 6; Berroth, A.; Chamberlin, T. C., 6; Dufour, P. T.; Jeans, J. H., 2; Keyes, C. R., 12; Stewart, L. B.
——, framework of the.—Davis, W. M., 21.
——, genesis & evolution of the.—Swaine, A. T.
——, geophysics & the.—Hayford, J. F., 1.
——, interior of the.—Chamberlin, T. C., 1 & 6; Gutenberg, B., 2; Holland, Sir T. H., 1; King, L. V., 1; Klussmann, W.; Mohorovičic, S., 1; Oldham, R. D., 7 & 9; Pretto, O. de; Reid, H. F., 2; Schlesinger, F.
——, lunar stage of the.—Bergeron, J., 1.
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——, rigidity of the.—Janne, H.
——, structure of the.—Barrell, J., 10; Jeffreys, H., 1; Morrison, J. T.; Willis, B.
——, thermal history of the.—Coleman, A. P., 4; Holmes, A., 1, 2 & 6.
Earth features, meaning of.—Hobbs, W. H., 1.
—— movements, France.—Gorceix, C., 3.
—— ——, Indo-China.—Deprat, J., 10.
—— ——, Italy.—Rovereto, G., 4.
—— ——, Katanga, W. Africa.—Delhaye, F., 1.
—— ——, Sheffield district.—Fearnsides, W. G., 3 & 4.
—— ——, causes of.—Holtedahl, O., 9.
—— ——, Charnian, E. Kent.—Baker, H. A., 2.
—— ——, fiords &.—Gregory, J. W., 25.
—— ——, Miocene.—Gentil, L., 15.
—— ——, periodic.—Chamberlin, T. C., 2.
—— ——, petroleum accumulation &.—Daly, M. R., 2.
—— ——, Pleistocene, Portugal.—Sousa, F. L. P. de, 8.
—— ——, Tertiary.—Boswell, P. G. H., 3; Hume, W. F., 3.
—— ——. *See also* Deformation, Diastrophism, &c.
—— pressures.—Crosthwaite, P. M.
—— tremors, connection of, with meteorological conditions.—Meissner, O., 1.
—— ——, measurement of.—Lumbier, M. M., 3 & 4.
—— worms, work of.—Fraipont, C., 1.
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—— ——, cooling of the.—Boussinesq, J., 1, 3 & 4; Guébhard, A., 28; Jeffreys, H., 2.
—— ——, deeper parts of the.—Adams, F. D., 4.
—— ——, deformation of the.—Cochain, A., 1; Hecker, O., 3.
—— ——, depth of the.—Negri, G., 2.
—— ——, primary solidification of the.—Meunier, S., 21.
—— ——, stability of the.—Cotton, L. A., 1.
Earthquake centres, distribution of.—Perry, J., 1.
—— fissure, Dumbarton.—Tyrrell, G. W., 10.
—— observations, Europe, 1912–13.—Hecker, O., 4.
—— ——, Guildford.—Norris, F. E., 1 & 2.
—— ——, Upsala.—Meissner, O., 3.
—— observatory, Disko I.—Harboe, E. G., 2.
—— path, in interior of Earth.—Mohorovičic, S., 1.
——, waves, amplitude of.—Gutenberg, B., 2.
—— ——, causes of.—Éblé, L.

Earthquake waves, propagation of.—Galitzin, Prince B., 4; Hecker, O., 7; Klotz, O.; Knott, C. G., 4 & 5; Marchi, L. de, 1; Meissner, O., 4; Oddone, E., 3; Somigliana, C., 1 & 2.

——— ———, registration of.—Hecker, O., 5.

——— ———, surface reflection of.—Walker, G. W., 3.

Earthquakes, Apennines, Taramelli, T., 7.

———, Belgian Congo.—Mathieu, F. F.

———, Burma.—Brown, J. C., 3.

———, Calabria.—Dolomieu, D. de, 1.

———, Central France.—Glangeaud, P., 1.

———, Cumberland.—Soddy, F., 4.

———, Danish Possessions, 1909–13.—Harboe, E. G., 3.

———, Dutch East Indies.—Komorowicz, P. M. Baron von.

———, Germany.—Scheltle, H.

———, Gt. Britain.—Davison, C., 2.

———, Greece.—Critikos, N.; Eginitis, D., 1–6 & 8; Goulandris, E., 1 & 2; *see also* Athens.

———, Guatemala.—Mitchell, C.

———, Hawaii.—Wood, H. O., 1.

———, Iceland.—Harboe, E. G., 1.

———, Italy.—Stefani, C. de, 9.

———, Japan.—Omori, F., 1–5; Szirtes, S., 1.

———, Java.—Kemmerling, G. L. L.

———, Liguria.—Agamennone, G., 5.

———, Lisbon.—Sequeira, G. de M.

———, Marsican, 1915.—Agamennone, G., 1–4; Angot, A.; Conrad, V.; Davison, C., 1 & 3; Fiore, O. de, 2; Galitzin, Prince B., 1; Grablovitz, G.; Lotti, B., 3; Mancini, E.; Martinelli, G.; Ricciardi, L.; Stefani, C. de, 1.

———, Mexico.—Lumbier, M. M., 2 & 6; Urbina, F., 3; Waitz, P; *see also* Mexico, 1 & 4.

———, New Zealand.—Hogben, G.; Skey, H. F.

———, Norway.—Kolderup, C. F., 4 & 5.

———, Pamir.—Galitzin, Prince B., 2.

———, Panama.—MacDonald, D. F., 1.

———, Philippine Is.—Masó, M. S.

———, Portugal.—Sousa, F. L. P. de, 1–4 & 6.

———, San Salvador.—Lacroix, A., 55.

———, Sangir I., E. Indies.—Szirtes, S., 2.

———, Scotland.—Davison, C., 6.

———, Sea of Marmara.—Yélénko, M.

———, Sicily.—Davison, C., 4; Platania, G., 3; Sabatini, V., 2 & 5.

———, Staffordshire.—Davison, C., 7; Stobbs, J. T., 2.

———, Sumatra.—Pontoppidan, H., 2.

———, Sweden.—Sahlstrœm, K. E., 1.

———, Switzerland.—Quervain, A. de, 1, 3, 4, 6 & 8; Tarnuzzer, C., 1.

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———, buildings &.—Neumann, M. M. N.; Omori, F., 4 & 5.

———, changes of level due to.—Schæfer, O.

———, effects of parallel faults on.—Montessus de Ballore, F. de.

———, focal depth of.—Walker, G. W., 2.

———, localisation of epicentre of.—Galitzin, Prince B., 3; Mohorovičic, S., 2.

———, means of avoiding.—Lumbier, M. M., 1.

———, measurement of.—Negri, G., 3 & 4.

———, nomenclature of.—Davison, C., 5.

———, phenomena connected with.—Monti, V.

———, preliminary tremors of.—Gutenberg, B., 1; Meissner, O., 5; Omori, F., 6.

———, premonitory effects of.—Capeder, G.

———, seasonal variation in frequency of.—Oldham, R. D., 5.

East African Protectorate.—Andrews, C. W., 6; Maufe, H. B., 2; Parkinson, J.

——— ——— ———, soils of.—*See* Imperial Institute, 1.

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——— ———, rivers of.—Grantham, R. F.

East Grinstead (Sussex).—Barrow, G., 1.

East Kilbride (Lanark).—Carruthers, R. G., 5.

East Pool mine (Cornwall).—Maclaren, M.

East Sooke (Vancouver I.).—Clapp, C. H., 7.

East Templeton dist. (Quebec).—Ledoux, A., 5.

East Wickham (Kent).—Baker, H. A., 7.

Eastbourne (Sussex).—Stainier, X., 7.

Easter I. (S. Pacific).—Evans, O. H.; Routledge, S.

Eatonia—Williams, H. S., 2.

Eby Township (Ontario).—Burrows, A. G., 5.

Ecballium.—Reid. C., 6; Welsch, J., 1.

Ecdemite.—Doelter, C., 1.

Echinanthus.—Checchia-Rispoli, G., 12; Clark, W. B., 3; Lambert, J., 6.

Echinidæ, Cretaceous.—Fourtau, R., 6.

———, Eocene.—Checchia-Rispoli, G., 7 & 12; Lambert, J., 6.

Echinidæ, Mesozoic.—Charpiat, R., 2.
——, Miocene.—Checchia-Rispoli, G., 11.
——, Pliocene.—Checchia-Rispoli, G. 9 & 10.
——, Tertiary.—Lambert, J., 3.
——, morphology.—Lambert, J., 5.
Echinobrissus.—Clark, W. B., 3; Fourtau, R., 6; Stefanini, G., 4.
Echinocardium.—Clark, W. B., 3; Hawkins, H. L., 8.
Echinoconchus.—Weller, S., 1.
Echinocorys.—Hawkins, H. L., 8.
Echinocrinus.—Girty, G. H., 1.
Echinocyamus.—Chapman, F., 16; Clark, W. B., 3; Hawkins, H. L., 8.
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——, Mesozoic & Tertiary.—Clark, W. B., 3.
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——, Eocene.—Fourtau, R., 2.
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——, Miocene.—Lovisato, D., 1–4.
——, Neogene.—Fourtau, R., 3.
——, Tertiary.—Jackson, R. T.; Kew, W. S. W., 1 & 2; Stefanini, G., 5.
——, morphology.—Hawkins, H. L., 2–10; North, F. J., 1.
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Ectocion.—Matthew, W. D., 13.
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Edestus.—Eastman, C. R., 2; Woodward, A. S., 10.
Edeyrnion, Vale of (N. Wales).—Smith, Bernard, 4.
Edgewood Limestone, Missouri.—Rowley, R. R.
Edinburgh.—Horne, J., 1; Tait, D., 1 & 2.
Edmondia.—Dunlop, R., 2; Girty, G. H., 1 & 2; Mansuy, H., 1; Williams, H. S., 2.
Edmonton Formation, Alberta.—Brown, B., 1 & 4; Lambe, L. M., 4 & 5.
Edmontosaurus.—Lambe, L. M., 4.
Edö, Smölen I. (Norway).—Reusch, H., 8.
Edrioasteroidea.—Bather, F. A., 2–5.
Education, mining industry &.—Stewart, W.
Edwards dist. (New York).—Newland, D. H., 6.
Eganstown (Victoria).—Howitt, A. M., 3.
Egersund dist. (Norway).—Kolderup, C. F., 1.
Egg-cases, of Chimæroid fish.—Leriche, M., 6.
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Egmont dist. (N.Z.).—*See* NEW ZEALAND, 5.
Egolzwil (Switzerland).—Schlaginhaufen, O.
Eguelite.—Doelter, C., 1.
Egypt.—Audebeau Bey, C.; Cana, F. R., 2; Dacqué, E.; Johnston, M. S., 2; Newton, R. B., 12; Wilde, H.
——, ancient civilisation of.—Schneider, O.
——, Cretaceous & Tertiary fauna.—Crick, G. C., 1; Fourtau, R., 1, 2, 4 & 5; Greco, B., 2–4; Gregorio, A. de, 6; Priem, F., 6; Stefanini, G., 4 & 5.
——, igneous rocks.—Barthoux, J., 2 & 3; Barton, D. C., 2; Mrazec, L., 2 & 3.
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——, palæolithic man in.—Petrie, W. M. F., 1 & 2.
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Elaterophanes.—Cockerell, T. D. A., 14.
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Elbow Lake dist. (Manitoba).—Bruce, E. L., 10.
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Eldonia.—Walcott, C. D., 11.
Electra.—Canu, F., 5.
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——, phylogeny.—Stefanescu, S., 3 & 4.
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Elizabeth Quadrangle (Illinois).—Trowbridge, A. C., 3.
Elk Valley coalfield (B.C.).—Rose, B., 5.
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——, Pleistocene succession in.—Kennard, A. S., 1.
——, search for new coalfields in.—Strahan, Sir A., 2.
—— (North).—Atkinson, J. B.
—— (—), Bibliography.—Sheppard, T., 4–8.

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Eoanthropus.—Hrdlička, A., 1; MacCurdy, G. G., 2; Rutot, A., 2; Woodward, A. S., 15.
Eobatrachus.—Moodie, R. L., 1.
Eocene, Algeria.—Savornin, J., 2.
——, Aquitaine.—Douvillé, H., 14 & 26.
——, Belgium.—Depéret, C., 2; Leriche, M., 5.
——, Borneo.—Rutten, L., 3.
——, Bournemouth.—Campion, H.
——, Burma.—Pilgrim, G. E., 9.
——, California.—Clark, B. L., 4; Dickerson, R. E., 1–3, 6 & 10–12; Douvillé, H., 6; Waring, C. A.
——, Central Tibet.—Douvillé, H., 22.
——, Coastal Plain, U.S.A.—Stephenson, L. W., 2.
——, Colorado.—Atwood, W. W., 1 & 4; Davis, C. A., 2.
——, Congo Basin.—Leriche, M., 9.
——, Croatia.—Dainelli, G.
——, Cyrenaica.—Prever, P. L.
——, Denmark.—Nœrregaard, E. M., 2.
——, Egypt.—Crick, G. C., 1; Dacqué, E.; Fourtau, R., 2; Priem, F., 6.
——, Florida.—Cooke, C. W.
——, France.—Boulenger, G. A., 5; Charpiat, R., 4–13; Filliozat, M., 2; Lambert, J., 6.
——, Georgia.—Berry, E. W., 10.
——, India.—Vredenburg, E. W.
——, Italy,—Checchia-Rispoli, G., 7, 8 & 14; Franchi, S., 1, 3 & 4; Pieragnoli, L.; Rovereto, G., 3.
Eocene, Java.—Martin, K.
——, London Basin.—Bather, F. A., 8; Boswell, P. G. H., 2.
——, Macedonia.—Bourcart, J.
——, Mississippi.—Berry, E. W., 2.
——, Morocco.—Brives, A., 4; Russo, P., 6.
——, New Jersey.—Harris, G. D.
——, New Zealand.—Marshall, P., 10.
——, Nigeria.—Andrews, C. W., 8.
——, N. America.—Dickerson, R. E., 11; Sinclair, W. J., 1.
——, Oregon.—Dickerson, R. E., 4.
——, Paris Basin.—Cossmann, M., 1; Leriche, M., 1.
——, Rocky Mountains.—Johannsen, A., 2.
——, Savoy.—Moret, L.
——, Senegal.—Chudeau, R., 3.
——, Sicily.—Checchia-Rispoli, G., 12 & 16.
——, Switzerland.—Buxtorf, A., 3; Rollier, L., 10; Stehlin, H. G., 2.
——, Texas & Mexico.—Dumble, E. T., 2.
——, United States.—Granger, W., 1, 2 & 4.
——, Washington.—Dickerson, R. E., 5; Smith, W. S., 2; Weaver, C. E., 1.
——, Wyoming,—Loomis, F. B., 3; Matthew, W. D., 11–15.
—— sands, andalusite in.—Davies, G. M., 1.
Eoceornis.—Shufeldt, R. W., 2.
Eoceratops.—Lambe, L. M., 1.
Eocyclops.—Haughton, S. H., 3.
Eocystis.—Bather, F. A., 15.
Eocystites.—Walcott, C. D., 7.
Eodelphis.—Matthew, W. D., 3.
Eo-Devonian, Carnic Alps.—Gortani, M., 3.
Eogene, Briançonnais.—Kilian, W., 1.
Eoliths, England.—Moir, J. R., 2, 3, 10, 11 & 13.
Eomegalodus.—Spriestersbach, J.
Eomesodon.—Woodward, A. S., 27.
Eoörthis.—Chapman, F., 23.
Eopecten.—Paris, E. T.
Eopristis.—Woodward, A. S., 28.
Eoradiolites.—Douvillé, H., 1.
Eosauravus.—Gregory, W. K., 1; Moodie, R. L., 2.
Eosphorite.—Doelter, C., 1; Drugman, J.
Eospilopteron.—Cockerell, T. D. A., 14.
Eostrophomena.—Chapman, F., 23.
Eotomaria.—Parks, W. A., 2.
Éoulx (Basses-Alpes).—Guébhard, A., 2; Kilian, W., 12.
Epeirogenic movements, Portugal.—Sousa, F. L. P. de, 8.
——, S.W. China.—Deprat, J., 10; Legendre, A. F., 1.
Ephydra.—Cockerell, T. D. A., 14.

Epicentre, of earthquakes, localisation of.—Galitzin, Prince B., 3; Mohorovičic, S., 2; Omori, F., 6.
Epidote.—Balzac, F., 2 & 3; Flink, G., 4; Siliprandi, T.
Epipremnum.—Reid, C., 6.
Epirus (Greece).—Niculescu, C., 1, 4 & 5; Renz, C.
Episcoposaurus.—Huene, F. von, 1.
Epithemia.—Lozano, E. D., 3.
Epithyris.—Buckman, S. S., 4.
Epitonium.—Anderson, F. M.; Clark, B. L., 5; Dall, W. H., 5; Dickerson, R. E., 6 & 9; Marshall, P., 8 & 13; Moody, C. L. 1; Nomland, J. O., 5.
Epsomite, N. America.—Jenkins, O. P., 1.
Equi (Apuan Alps).—Stefani, C. de, 2 & 3.
Equidæ, Tertiary.—Osborn, H. F., 10.
Equisetales, catalogue of.—Jongmans, W.
——, Mesozoic.—Walkom, A. B., 1.
Equisetites.—Mœller, H.; Walkom, A. B., 1 & 4.
Equisetum.—Cockerell, T. D. A., 7; Reid, C., 6.
Equula.—Stefano, G. de, 6.
Equus.—Hay, O. P., 1, 2, 7 & 8; Matsumoto, H., 2; Merriam, J. C., 3, 6, 8 & 14; Troxell, E. L., 1.
Erdi (Sudan).—Lacroix, A., 77.
Erdmannite.—Doelter, C., 2.
Érezée (Belgium).—Asselberghs, E., 1.
'Ergeron,' Belgium.—Hallez, H., 1.
Eridotrypa.—Cumings, E. R., 2.
Erikite.—Doelter, C., 1.
Erinaceus.—Gregory, W. K., 5.
Erinite.—Doelter, C., 1.
Erismacanthus.—Eastman, C. R., 2.
Erosion, base level of.—Ahlmann, H. W., 4.
——, cellular, of crystalline schists.—Négris, P., 1.
——, in clays, Tennessee.—Schroeder, R. A.
——, coastal.—Bartrum, J. A., 1; Carey, A. E.; Martin, E. A., 1; Matthews, E. R.; Roper, I. M.
——, ——, British Guiana.—*See* British Guiana, 7–10.
——, ——, Norfolk.—Hill, E.
——, ——, Normandy. Varigny, H. de.
——, ——, Suffolk.—Hacon, C. R.
——, —— Tyne Estuary.—Haselhurst, S. R., 1.
——, ——, rock-boring organisms &.—Jehu, T. J., 1.
——, fluvial.—Lugeon, M., 4.
——, glacial.—*See* Glacial erosion.
——, old surfaces of.—Reinecke, L., 5; *see also* Peneplains.
——, Pleistocene, Denmark.—Jessen, A., 3.
Erosion, pre-Thanetian.—Baker, H. A., 4; Bromehead, C. N., 1.
——, by snow.—Ekblaw, W. E.
——, sub-aerial, Isle of Wight.—César-Franck, R.
——, ——, Portugal.—Fleury, E., 5 & 6.
——, ——, Norway.—Reusch, H., 7 & 10.
——, ——, S.-W. China.—Deprat, J., 10.
——, ——, Sweden.—Ahlmann, H. W., 3.
——, ——, Victoria.—Keble, R. A., 2.
——, ——, Western Australia.—Jutson, J. T., 7.
——, ——, in arid districts.—Keyes, C. R., 1 & 3.
Erquy (Côtes-du-Nord).—Daniel, L.
Erratics, Caithness.—Sutherland, A.
——, Finland.—Hausen, H., 1 & 2; Kurki, M. V.
——, New Zealand.—Park, J., 2.
——, Orkney Is.—Saxton, W. I.
——, Sweden.—Eichstædt, F.; Geijer, P., 8; Hœgbom, B., 3; Nathorst, A. G., 4; Sandgren, R., 1.
——, Swiss Jura.—Struebin, K., 1.
——, in coal seams.—Lister, J. H.; Pringle, J., 3.
Erstfeld gneiss, Switzerland.—Heim, Arn., 3.
Ertelien (Norway).—Carstens, C. W., 3.
Eruptions.—*See* Volcanic eruptions.
Eruptive rocks.—*See* Igneous rocks.
Erycina.—Cossmann, M., 8; Dall, W. H., 2.
Eryops.—Douthitt, H.; Watson, D. M. S., 4.
Eryopsides.—Douthitt, H.
Erythræa, magnetic survey of.—Palazzo, L.
——, potash salts in.—Giua, M.
Erythræan rift.—Montessus de Ballore, F. de.
Erythrite.—Doelter, C., 1.
Esbjerg (Denmark).—Nœrregaard, E. M., 1.
Escarpment, Wealden, geological history.—Marriott, R. A., 2.
Eschara,—Faura, M.
Escharella.—Morgan, J. de, 1.
Eschatius.—Troxell, E. L., 1.
Eskdale (Cumberland).—Jones, T. A., 1.
Espanola dist. (Ontario).—Quirke, T. T., 1.
Espling, O., *Biogr.*—*See* Nathorst, A. G., 6.
Essex.—Dibley, G. E., 1 & 2; Gregory, J. W., 7; Newton, E. T., 2; Warren, S. H., 4 & 5.
——, water-supply.—Whitaker, W., 8.
Essexite.—Scott, A., 2.
Essexvale (Rhodesia).—Zealley, A. E. V., 3.

Essiquibo Coast, Brit. Guiana.—*See* British Guiana, 10.
Esthonia (Russia).—Bekker, H.; Twenhofel, W. H., 3.
Estrella, Sierra da (Portugal).—Fleury, E., 3.
Estremadura (Portugal).—Choffat, P., 1.
Etallonia.—Oppliger, F.
Étampes (France).—Courty, G.
Etch figures, beryl.—Honess, A. P., 1.
—— ——, calcite.—Ichikawa, S., 2 & 4.
—— ——, chalcocite.—Tolman, C. F., *fil.*, 4.
—— ——, galena.—Ichikawa, S., 2.
—— ——, garnet.—Ichikawa, S., 3.
—— ——, gypsum.—Grengg, R.
—— ——, quartz.—Ichikawa, S., 1.
—— ——, dihexagonal alternating type of.—Honess, A. P., 2.
—— ——, growth of.—McNairn, W. H.
Etchegoin Formation, California.—Nomland, J. O., 2 & 5.
Etheridge gold field (Queensland).—Ball, L. C., 3.
Etheridgea.—Tillyard, R. J., 1.
Etna (Sicily).—Davison, C., 4; Fiore, O. de, 2; Franco, S. di, 2; Platania, G., 2 & 3; Ponte, G., 1.
Euacanthus.—Meunier, F.
Eubrontes.—Lull, R. S., 3.
Eucalodium.—Cockerell, T. D. A., 5.
Eucalyptus,—Chapman, F., 31; Patton, R. T.
Eucheirocrinus.—Williams, M. Y., 11.
Euchelus.—Chapman, F., 16.
Euchelyolepis.—Woodward, A. S., 27.
Euchroite.—Doelter, C., 1.
Eucladia.—Schuchert, C., 2.
Euclase.—Doelter, C., 2; Glinka, S. T.
Eucolite.—Lacroix, A., 26 & 29; Zambonini, F., 5.
Eucommia.—Reid, C., 6.
Euconospira.—Girty, G. H., 2.
Eucryptite.—Doelter, C., 2.
Eucyclus.—Cossmann, M., 5.
Eucystis.—Reed, F. R. C., 3.
Eudialite.—Flink, G., 4; Zambonini, F., 5.
Euganean Hills (Italy).—Billows, E.
Eugnamptus.—Henriksen, K. L.
Euidothyris.—Buckman, S. S., 4.
Eulepidina.—Douvillé, H., 8.
Eulima.—Cerulli-Irelli, S., 1; Chapman, F., 16; Dall, W. H., 2; Dickerson, R. E., 9; Martin, K.
Eulimella.—Anderson, F. M.; Cerulli-Irelli, S., 1.
Eulimidæ, Pliocene.—Cerulli-Irelli, S., 1.
Eulysite.—Palmgren, J.
Eulytine.—Doelter, C., 2.
Eumargarita.—Newton, R. B., 1.
Eumetria.—Branson, E. B., 5; Girty, G. H., 2; Weller, S., 1.
Eunella.—Williams, H. S., 2.
Eunema.—Holtedahl, O., 1.
Eunemacanthus.—Branson, E. B., 3.
Eunotosaurus.—Watson, D. M. S., 2.
Euomphalopterus.—Parks, W. A., 2.
Euomphalus.—Chapman, F., 6; Diener, C.; Dunlop, R., 2; Girty, G. H., 2 & 3; Mansuy, H., 2; Parks, W. A., 2; Williams, M. Y., 11.
Eupachycrinus.—Girty, G. H., 1.
Eupalamopus.—Lull, R. S., 3.
Eupatagus.—Clark, W. B., 3; Stefanini, G., 5.
Eupatorium.—Reid, C., 6.
Euphemus.—Diener, C.; Girty, G. H., 1; Stefani, C. de, 4.
Euphloberia.—Jackson, J. W., 8.
Euphorbia.—Reid, C., 6.
Euphylax.—Rathbun, M. J., 4.
Eupleura.—Harmer, F. W., 2.
Euporismites.—Tillyard, R. J., 1.
Euproops.—Woodward, H., 6.
Eurasia, orography of.—Gregory, J. W., 2.
Europe, growth of.—Cole, G. A. J., 2 & 14.
——, origin of civilisation in.—Evans, Sir A.
——, periodic submergence of.—Schuchert, C., 10.
——, (Western), coal fields.—Stainier, X., 6; Walker, G. B., 1.
—— (—), geological history.—Howorth, Sir H. H.
—— (—), Pleistocene.—Œyen, P. A., 10.
Euryale.—Reid, C., 6.
Eurydesma.—Dun, W. S., 1.
Eurymyella.—Gardiner, C. I., 3.
Eurypterid horizon, in Niagara Formation.—Williams, M. Y., 4.
Eurypteridæ, habitat of.—Schuchert, C., 9.
Eurypterus.—Savage, T. E., 3; Stainier, X,. 5; Williams, M. Y., 11.
Eurythorax.—Hussakof, L., 3.
Eusarcus.—Williams, M. Y., 4.
Euspira.—Newton, R. B., 2; Trechmann, C. T., 5.
Eusthenopteron.—Gregory, W. K., 1; Petronievics, B., 3.
Eutherian mammalia, classification of Tertiary strata by means of.—Dawkins, Sir W. B., 1.
Euthria.—Harmer, F. W., 2; Martin, K.
Eutritonium.—Cossmann, M., 1; Martin, K.
Euxenite.—Betim, A.; Lacroix A., 19; Miller, W. G., 5 & 6; Ungemach, H., 1.
Euzet-les-Bains (Gard).—Depéret, C., 5.
Evactinopora.—Etheridge, R., *fil.*, 1.
Evansford (Victoria).—Whitelaw, H. S., 1.

Evaporation, at surface of snow beds.—Rolf, B.
——, of potash brines.—Hicks, W. B., 2.
Evergreen mine (Colorado).—McLaughlin, D. H., 2.
Evolution, climate &.—Barbour, T.; Matthew, W. D., 1.
——, organic.—Lull, R. S., 6.
——, problems of.—Caullery, M.
Exelissa.—Cossmann, M., 5.
Exeter, water-supply.—Anon., 107.
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Exilia.—Dickerson, R. E., 5 & 9.
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Exogyra.—Cossmann, M., 7; Greco, B., 4; Jourdy, E., 5; Krenkel, E.; Newton, R. B., 9.
Exotic blocks, Prealps.—Lugeon, M., 6.
Explosions, colliery.—Galloway, W., 2.
——, volcanic.—Fiore, O. de, 3.
Extinction, angles of, in twinned felspar crystals.—Sigg, H., 2.
——, of fossil organisms.—Lang, W. D., 11.
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Fæmund (Norway).—Holmsen, G., 2; Schiœtz, O. E.
Fagara.—Matson, G. C., 3.
Fågelsång dist. (Sweden).—Bobeck, O.; Moberg, J. C.; Troedsson, G. T.
Fagopsis.—Knowlton, F. H., 4.
Fagus.—Koiwai, K.; Reid, C., 6.
Fai-tsi-long, Bay of (Tonkin).—Deprat, J., 18.
Fairbanks (Alaska).—Bateman, A. M., 2.
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Falkenberg (Sweden).—Grœnwall, K. A., 3.
Falklandia.—Clarke, J. M., 12.
Falsifusus.—Wade, B., 3.
Falun (Sweden).—Eskola, P., 4; Geijer, P., 5 & 11.
Falunian, Touraine.—Morgan, J. de, 1–3.
Famatinite, Nevada.—Shannon, E. V., 2.
Famennian, Belgium.—Asselberghs, E., 2.
Faratsihite, Madagascar.—Lacroix, A., 5.
Farcimia.—Canu, F., 2.
Farnham (Surrey).—Bury, H., 1, 3 & 4.
Faroe Is.—Aminoff, G., 2.
Fascigera.—Canu, F., 3.
Fasciolaria.—Bell, A., 5; Dall, W. H., 2; Dickerson, R. E., 5, 6 & 9; Greco, B., 3; Waring, C. A.
Fassatal (Tyrol).—Koechlin, R., 4.
Faucille, Col de la (Fr. Jura).—Ronchadzé, J.
Fault, Keweenaw.—Lane, A. C., 3.
——, reversed, Sub-Himalayan.—Middlemiss, C. S., 3.
Fault breccias, Sweden.—Hœgbom, A. G., 4.
—— lines, Finland.—Sederholm, J. J., 3.
—— scarps, false, in desert ranges.—Keyes, C. R., 2.
—— system, S. Africa.—Schwarz, E. H. L., 4.
Faulting, block, Oregon.—Johnson, D. W., 3.
——, low-angle.—Chamberlin, R. T., 4.
——, ore-deposition &.—Soper, E. K., 3; Spurr, J. E., 3.
——, post-Tertiary.—Dunn, E. J., 11; Madsen, V., 4.
——, pre-volcanic, Auvergne.—Glangeaud, P., 6.
Faults, Belgium.—Anthoine, R., 3; Bertiaux, A.
——, Cevennes Mts.—Thiéry, P., 1.
——, Cornwall.—Fern, J. B.
——, France (S.E.).—Guébhard, A., 10, 13 & 14; Kilian, W., 10 & 11.
——, Iowa.—Tilton, J. L.
——, Kentucky.—Miller, A. M., 3.
——, New York.—Chadwick, G. H., 3.
——, Pyrenees.—Stuart-Menteath, P. W., 5.
——, Sweden.—Hœgbom, A. G., 4; Troedsson, G. T.
——, Switzerland.—Buxtorf, A., 3.
——, Utah.—Butler, B. S., 4.
——, nomenclature of.—Ahlmann, H. W., 1.
——, origin of.—Cloos, H., 3.
——, parallel, effects of, on earthquakes.—Montessus de Ballore, F. de.
——. *See also* Overthrusts.
Fauna, Arctic, in Aralo-Caspian region.—Hœgbom, A. G., 7.
——, marine, bottom control of.—Kindle, E. M., 4.
——, of New Zealand.—Hutton, F. W.
——, origin of, Pacific Islands.—Matthew, W. D., 5.
Faunus.—Cossmann, M., 1; Dainelli, G.; Martin, K.
Fauske-Junkerdalen area (Norway).—Rekstad, J., 11.
'Favas,' Brazil.—Farrington, O. C., 3.
Favia.—Vaughan, T. W., 12.
Favignana (Sicily).—Gregorio, A. de, 5.

Favites.—Vaughan, T. W., 12.
Favosites.—Etheridge, R., *fil.*, 1; Mansuy, H., 1 & 4; Savage, T. E., 4; Williams, H. S., 2; Williams, M. Y., 11.
Fayalite.—Flink, G., 4; Michel, H., 1.
Fayette Co. (Iowa).—Slocom, A. W.
Fayoum (Egypt).—Dacqué, E.
Felinæ, Pliocene.—Campana, D. del, 4.
Felis.—Campana, D. del, 4 & 5; Merriam, J. C., 3 & 14; Peach, B. N.; Stock, C., 5.
Felsitic rocks, Rhodesia.—Zealley, A. E. V., 9.
Felspar, Sweden.—Flink, G., 1.
——, Western Australia.—Honman, C. S., 1.
——, action of alkaline solutions on. Stephenson, E. A.
——, analysis of.—Doelter, C., 2.
——, association of tourmaline with. —Fersmann, A.
——, aventurine.—Andersen, O., 1 & 3.
——, determination of.—Cesàro, G., 5 & 7; Sigg, H., 4.
——, dispersion phenomena in.—Kôzu, S., 4–6.
——, in granite.—Beljankin, D.
——, in limestone.—Daly, R. A., 13; Lapparent, J. de, 4.
——, potash.—Jesser, L.; Mækinen, E., 4; Quinney, E. H.
——, production of.—Katz, F. J., 1.
——, twinning of.—Sigg, H., 2 & 3.
——. *See also* Plagioclase, *&c.*
Fens, Cambridgeshire.—Hughes, T. McK., 2.
Fenestella.—Diener, C.; Mansuy, H., 4.
Ferberite, Colorado.—Hess, F. L., 4.
Fergusonite, Madagascar.—Lacroix, A., 14.
Fermorite.—Doelter, C., 1.
Fernandinite.—Schaller, W. T., 2.
Fernando Formation, California.—Moody, C. L., 1.
Fernigen (Switzerland).—Heim, Alb., 9.
Ferrazite.—Lee, T. H., 2.
Ferric oxides, hydrated.—Posnjak, E., 2.
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Ferrisphere, The.—Guébhard, A., 24.
Ferro-cobalt, magnetic properties of. —Kalmus, H. T., 3.
Ferrostibiane.—Doelter, C., 1.
Fertilizers, mineral.—Pogue, J. E., 2.
Feshie, R. (Scotland).—Bremner, A., 2.
Feysville (Western Australia).—Honman, C. S., 5.
Fiadanana (Madagascar).—Grossmann, C.
Fibula, infantile, Neolithic.—Baudouin, M., 4.
Fibularia.—Checchia-Rispoli, G., 9; Clark, W. B., 3; Lambert, J., 6.
Fibularidæ, Miocene.—Lovisato, D., 1.
Ficarazzelli (Sicily).—Gregorio, A. de, 5.
Ficopsis.—Dickerson, R. E., 5 & 6.
Ficula.—Bell, A., 5.
Ficus.—Berry, E. W., 18; Colani, M.; Dickerson, R. E., 5; English, W. A., 1; Newton, R. B., 1 & 6; Waring, C. A.
Field Columbian Museum, meteorites in the.—Farrington, O. C., 4.
Field dist. (B.C.).—Allan, J. A., 1.
Fier, R. (Savoy).—Gorceix, C., 1.
Fifeshire.—Anon., 110; Balsillie, D., 1 & 2; Dunlop, R., 2; Rhodes, J. E. W., 3; Wallace, Mrs.; Wright, J., *fil.*, 1 & 2.
Figeac (France).—Lacroix, A., 58.
Fiji Is.—Andrews, E. C., 7; Davis, W. M., 8; Foye, W. G., 5 & 7; Wright, C. H.
Filabres, Sierra de los (Spain).—Sierra, A. de.
File Lake dist. (Manitoba).—Alcock, F. J., 5.
Filfila Mt. (Algeria).—Rauw, H. de, 1 & 2.
Filicales, Mesozoic.—Walkom, A. B., 2.
Filisparsa.—Faura, M.
Finland.—Eskola, P., 1–4; Frosterus, B , 1 & 2; Mækinen, E., 1–3 & 5; Sederholm, J. J., 1–3.
——, dyke rocks in.—Hackman, V., 1 & 2.
——, glaciation of.—Hausen, H., 1 & 2.
——, Pleistocene changes of level in —Wilkman, W. W., 1.
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Finmark (Norway).—Holtedahl, O., 3, 5 & 7.
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Fiords, Norway.—Gaarder, T., 1 & 2.
——, distribution of.—Gregory, J. W., 15.
——, earth movements &.—Gregory, J. W., 25.
Fire-bricks, impregnation of.—Davis, N. B., 1.
Fire-clay, Illinois.—Lines, E. H.
——, Pennsylvania.—Morganroth, L. C., 2.
——, Rome.—Meli, R., 3.
——, Scotland.—Hinxman, L. W., 3.
—— ——, S. Australia.—*See* SOUTH AUSTRALIA, 9.
——, Staffordshire (S.).—Cox, A. H., 5.
——, in glass industry.—Davidson, J. H.

Fire-damp, composition of.—Moureu, C.
Firmeza dist. (Cuba).—Roesler, M.; Singewald, J. T., *fil.*, 3.
First Watching Mountain (New Jersey).—Wherry, E. T., 6.
Firth, R. (Canada).—O'Neill, J. J., 1.
Fischer, E., *Obit.*—*See* Steinmann, G., 1.
Fischer, H., *Obit.*—*See* Dautzenberg, P., 2; & Dollfus, G. F., 15.
Fischer, P. M. H., *Obit.*—*See* Anon., 25.
Fish-scales, fossil.—Cockerell, T. D. A., 17.
——, worm-burrows in.—Wiman, C., 9.
Fisher, O., *Obit.*—*See* Woodward, A. S., 2.
Fisher (Minnesota).—Merrill, G. P., 4.
Fishes, fossil, in U.S. National Museum.—Eastman, C. R., 2.
——, ——, use of, in stratigraphical geology.—Woodward, A. S., 3.
——. *See also* Pisces.
Fismes (France).—Charpiat, R., 7.
Fissure, caused by lightning.—Holmboe, J., 1.
Fissure coals, S. Africa.—Versfeld, W., 1.
Fissurella.—Cerulli-Irelli, S., 2; Cossmann, M., 1; Dall, W. H., 2.
Fissurellidæ, Pliocene.—Cerulli-Irelli, S., 2.
Fissures, clay-filled, in coal seams.—Wilson, W. B.
Fissuridea.—Nomland, J. O., 3 & 5.
Fissuring, of rocks.—Ahlmann, H. W., 1; Lohest, M., 1; Rosberg, J. E., 1 & 2.
Fistulipora.—Girty, G. H., 1 & 4.
Fiuggi (Italy).—Grossi, M.
Flabellaria.—Colani, M.
Flabellina.—Chapman, F., 18.
Flabellirhynchia.—Buckman, S. S., 4.
Flabellum.—Bell, A., 5; Nœrregaard, E. M., 1; Nomland, J. O., 1; Waring, C. A.
Flajolotite.—Doelter, C., 1.
Flaking, of flint implements.—Moir, J. R., 14.
Flathead dist. (B.C.).—Arnold, R., 1; Dowling, D. B., 2; MacKenzie, J. D., 5 & 6; Rose, B., 7.
Flémalle-Haute (Belgium).—Ledoux, A., 3.
Fleming, Sir S., *Obit.*—*See* Woodward, A. S., 8.
Flemingostrea.—Vredenburg, E. W.
Flénu beds, Belgium.—Racheneur, F.
Flight, of extinct reptiles & insects.—Harlé, E., 3.
Flinkite.—Doelter, C., 1.
Flint, deposition of.—Cole, G. A. J., 8.
——, flaked, from Red Crag.—Sollas, W. J., 4.
Flint, fracture of.—Haward, F. N.; Moir, J. R., 14 & 15; Warren, S. H., 1.
——, origin of.—Carus-Wilson, C., 4; Chapman, F., 19; Lankester, Sir E. R.; Lapparent, J. de, 5; Moore, B.; Richardson, W. A., 1.
——, patination of.—Hewitt, H. D., 2.
Flint beds, New Zealand.—Thomson, J. A., 9.
—— erratics, Sweden.—Eichstædt, F.
—— implements.—*See* Implements.
—— industry, Brandon.—Lovett, E
—— mines, Sweden.—Holst, N. O., 1–3.
—— pebbles, Hertfordshire.—Kidner, H., 2.
—— River (Georgia).—Dall, W. H., 5.
—— working site, Cornwall.—Marsden, J. G., 1 & 2.
—— —— ——, Hampshire.—Nicholas, R. E.
—— —— ——, Ipswich.—Moir, J. R., 1.
—— —— ——, Pembrokeshire.—Leach, A. L., 8.
Flints, coned.—Sainty, J. E.
——, in Flanders Clay.—Gosselet, J., 6.
'Flinty-crush-rock.'—Shand, S. J., 3.
Floitental (Austria).—Koechlin, R., 3.
Flokite.—Callisen, K.
Flood, Babylonian accounts of the.—Pinches, T. G.
Flooding, of mines, Mexico.—Ordoñez, E., 2.
Floods, Irrawaddy R., Burma.—Samuelson, B. M.
——, Palar R., S. India.—Stoney, E. W.
——, Tay Valley.—Coates, H.
——, records of, Nile.—Keele, T. W.
Flora, Arctic.—Fritel, P. H., 2.
——, ——, in Cambridge.—Marr, J. E., 6.
——, ——, in Scania.—Gertz, O., 2.
——, distribution of, in Central America.—Trelease, W.
——. *See also* Plantæ.
Floral structures, in cycads.—Wieland, G. R., 3.
Florencite.—Doelter, C., 1.
Florida (U.S.A.).—Kemp, J. F., 4; Dall, W. H., 2 & 6; MacCurdy, G. G., 3; Mansfield, W. C.; Merrill, G. P., 11 & 13.
——, coral reefs.—Vaughan, T. W., 1, 2, 5 & 8.
——, phosphate deposits.—Matson, G. C., 1.
——, Quaternary.—Berry, E. W., 13; Chamberlin, R. T., 1 & 2; Chamberlin, T. C., 5; Hay, O. P., 4; Sellards, E. H., 1, 2 & 4–11; Vaughan, T. W., 10; Wickham, H. F., 4.

Floridinella.—Canu, F., 11.
Florissant (Colorado).—Cockerell, T. D. A., 4, 7, 13, 18, 21 & 22; Knowlton, F. H., 4; Shufeldt, R. W., 4; Wickham, H. F., 1 & 3.
Flow, plastic.—Bingham, E. C.; Michelson, A. A.
Flow-breccias, Colorado.—Patton, H. B.
Flowery Gully (Tasmania).—Twelvetrees, W. H., 6.
Flugkogel gneiss, Austria.—Schurk, L.
Fluocarbonates, mode of occurrence of.—Lacroix, A., 11.
Fluorine, in meteorites.—Merrill, G. P., 14.
Fluorite.—Balzac, F., 4; Blount, B., 2.
——, in lead ores.—Goodchild, W. H., 3.
Fluor-spar, Gt. Britain.—Carruthers, R. G., 7.
——, France.—Lane, A. C., 7.
——, Mexico.—Peña, M., 4.
——, New Zealand. *See* New Zealand, 6.
——, Switzerland.—Bæchler, E.
——, Wisconsin.—Bagg, R. M.
——, analysis of.—Doyle, G. R.
——, production of.—Burchard, E. F., 4.
——. *See also* 'Blue John.'
Fluorophosphates.—Slavik, F.
Fluviatile deposits.—*See* Alluvium & Gravels.
—— origin, of Old Red Sandstone.—Barrell, J., 6.
Fluvio-glacial deposits, Dauphiné.—Girardin, P., 2.
—— ——, Denmark.—Jessen, A., 2.
—— ——, Savoy.—Kilian, W., 3.
Fly R. (New Guinea).—Gregory, J. W., 29 & 39.
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—— vertebrates, geological history of.—Young, G. W., 2.
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——, the term.—Segrè, C. 1.
Focal depth, of earthquakes.—Walker, G. W., 2.
Folding, Alberta.—Stewart, J. S., 2 & 4.
——, Apennines.—Rovereto, G., 2.
——, Asturias.—Termier, P., 9.
——, Australasia.—Andrews, E. C., 1.
——, Basses-Alpes.—Guébhard, A., 18; Kilian, W., 11; Zurcher, P., 5 & 6.
——, Bristol & Somerset coal fields.—Staples, E. H.
——, Denmark, in fluvio-glacial deposits.—Jessen, A., 2.
——, Indo-China.—Deprat, J., 3 & 9.
——, Ohio Valley.—Gardner, J. H., 1.
Folding, Oklahoma.—Fath, A. E., 2.
——, Pyrenees.—Spitz, A., 2.
——, Saar Valley.—Kessler, P.
——, Staffordshire (S.).—King, W. W.
——, Sweden.—Sundius, N., 3.
——, Switzerland.—Arbenz, P., 2.
——, experiments on.—Reichlin, N.
——, of primitive & Alpine types.—Sederholm, J. J., 6.
——, in relation to accumulation of petroleum.—Shaw, E. W., 11.
——. *See also* Over-folding.
Folds, formation of.—Belot, E., 12 & 13.
Foliation.—Bonney, T. G., 9; Meunier, S., 4 & 8.
——, Central France.—Mouret, G., 3.
——, pre-Cambrian.—Miller, W. J., 3.
Folkestone (Kent).—Kidston, R., 2; Osman, C. W.; Pringle, J., 1.
Follmannella.—Williams, H. S., 2.
Fond du Lac (Saskatchewan).—Camsell, C., 5.
Fontainebleau Sandstone.—Bergeron, J., 2; Dollfus, G. F., 4.
Footeite—Ford, W. E., 7.
Footprints, of Dinosaur.—Shuler, E. W., 2.
——, Palæozoic.—Lull, R. S., 8.
——, Permo-Carboniferous.—Jillson, W. R., 1.
——, Triassic.—Maidwell, F. T., 3.
Foraker Limestone, Kansas.—Twenhofel, W. H., 6.
—— Quadrangle (Oklahoma).—Heald, K. C.
Foraminal development, in Brachiopoda.—Buckman, S. S., 2.
Foraminifera, Cretaceous.—Chapman, F., 13 & 18; Lapparent, J de, 2.
——, Devonian.—Chapman, F., 26.
——, Eocene, Checchia-Rispoli, G., 8 & 14.
——, Miocene.—Chapman, F., 1.
——, Pleistocene.—Molengraaff, G. A. F., 4.
——, Pliocene.—Gregorio, A. de, 6; Martinotti, A.
——, Silurian.—Smith, J., 1.
——, Tertiary.—Cushman, J. A., 1 & 2; Howchin, W., 3; Newton, R. B., 5, 8 & 10; Rutten, L., 1–3; Yabe, H., 6–8.
——, classification.—Kemna, A.
——, structure.—Douvillé, H., 27.
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Forbesite.—Doelter, C., 1.
Förde (Norway).—Reusch, H., 7.
Fordilla.—Cobbold, E. S., 2.
Forest, buried, N.Z.—Speight, R., 8.
Forest fires, geological importance of.—Hœgbom, I.

Forest floor, Tertiary, Japan.—Hayasaka, I., 1.
—— Period, Denmark.—Nordmann, V., 1.
—— Sandstone, S. Rhodesia.—Maufe, H. B., 7.
Forests, of the Coal Age.—Scott, D. H., 6.
——, post-glacial, Sweden.—Post, L. von, 7.
——, submerged, Belle-Ile (Brittany).—Gadeceau, E.
——, ——, Bombay.—La Touche, T. H. D., 2.
——, ——, Pembrokeshire.—Leach, A. L., 8.
——, ——, Ice Age &.—Marriott, R. A., 1.
Forfarshire.—Hosgood, B.
'Formkohle,' origin of.—Stevenson, J. J., 5.
Fornax.—Wickham, H. F., 1.
Forsterite.—Andersen, O., 2.
Fort Hall Reservation (Idaho).—Mansfield, G. R., 3 & 6.
Fort Pierre Formation, Wyoming.—Loomis, F. B., 1.
Fort Scott Formation, Kansas.—Berger, W. R., 1.
Fort Smith-Poteau gas field (Arkansas).—Smith, C. D., 1.
Fort Steele mining divn. (B.C.).—Galloway, J. D., 5.
Fort Union Formation, Montana.—Gidley, J. W., 1.
Fort Worth (Texas).—Shaw, E. W., 15.
Foss (Norway).—Œyen, P. A., 1.
Fossaridæ, Pliocene.—Cerulli-Irelli, S., 1.
Fossarus.—Anderson, F. M.; Cerulli-Irelli, S., 1.
Fossil Botany.—Scott, D. H., 1; Seward, A. C., 4.
Fossiliferous deposits, recent, W. Morocco.—Lecointre, G., 8.
—— rocks, Panama.—MacDonald, D. F., 2.
Fossilisation, microbes &.—Meunier, S., 18.
Fossils, application of X-rays to.—Heron-Allen, E., 2.
——, doubtful.—Fraipont, C., 2.
——, old age & extinction of.—Lang, W. D., 11.
——, restoration of.—Sollas, W. J., 2 & 3.
——, type, in Peter Redpath Museum.—Ardley, E., 1.
——, use of, in correlation.—Ulrich, E. O., 3; Woodward, A. S., 3 & 9.
Foucherite.—Doelter, C., 1.
Four (Switzerland).—Vouga, P.
Fowler, F., *Obit.*—*See* Harker, A., 4.
Fraas, E., *Obit.*—*See* Osborn, H. F., 3.
Fracturing, continental, in Oceanica.—Schuchert, C., 5.
——, of flint.—Moir, J. R., 15.
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France, minerals & ore deposits.—Lane, A. C., 7; Nicou, P.; Ungemach, H., 2.
——, science in.—*See* Paris.
—— (Central).—Kilian, W., 13; Mouret, G., 1–3.
—— (—), mineral waters.—Jadin, F., 3.
—— (—), river discharges.—Morin, P.
—— (Eastern).—Joly, H.
—— (Northern).—Barrois, C., 3; Bertrand, P., 1–4, 9 & 10; Davis, W. M., 13; Depape, G.; King, W. B. R.; Pruvost, P., 1, 2 & 5–8; Révil, J., 3.
—— (South).—Priem, F., 1, 3 & 7.
—— (South-Eastern).—Kilian, W., 7 & 8.
—— (South-Western).—Canu, F., 1–4; Priem, F., 4 & 5.
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Franciscan Sandstone, California.—Davis, E. F.
Franklin (B.C.).—Drysdale, C. W., 2.
Franklin (New Jersey).—Ford, W. E. 9; Haight, C. M.
Franks, G. F., *Obit.*—*See* Harker, A., 6.
Frankston (Victoria).—Hartung, E. J.
Franz Joseph glacier (N.Z.).—Speight, R., 2.
Fraser I. (Queensland).—Dunstan, B., 6.
Frasnian, Belgium.—Asselberghs, E., 3; Maillieux, E., 6.
Fraxinus.—Knowlton, F. H., 4; Sangiorgi, D., 2.
Freestone quarries, Victoria.—Baragwanath, W., 6.
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French Colonies, gold in.—Lacroix, A., 56.
—— ——, igneous rocks of.—Lacroix, A., 37.
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Fresnedo (Asturias).—Termier, P., 8.
Freshwater beds, Arizona.—Robinson W. I., 1.
—— ——, Denmark.—Jessen, A., 4.
—— mollusca, Denmark.—Johansen, A. C.
Fribourg (Switzerland).—Girardin, P., 9; Horwitz, L., 2.
Friedelite.—Flink, G., 4.
Fringing reefs, Philippine Is.—Davis, W. M., 19.
Fritzscheite.—Doelter, C., 1.
Frodingham (Lincs.).—Ellis, D., 3.
Frogs, fossil, N. America.—Moodie, R. L., 1.

Fromental (Haute-Vienne).—Mouret, G., 2.
Frondicularia.—Chapman, F., 16 & 18.
Frösjö (Sweden).—Anrick, C. J., 2.
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Fruits, dispersal of, by ocean currents.—Morris, Sir D.
Fu Chuan dist. (China).—Yung, M. B.
Fuchsite.—Wherry, E. T., 8.
Fuel analyses, interpretation of.—Bailey, E. G.
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Fuels, fossil, interrelations of.—Stevenson, J. J., 2–4.
——, geology of.—Boulton, W. S.
——, mineral, analyses of.—Campbell, M. R., 2.
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Fumaroles, Stromboli.—Ponte, G., 2.
Funafuti boring.—Cullis, C. G., 1; Skeats, E. W., 5.
Fundkofel (Carinthia).—Penny, F. W.
Fundy, Bay of.—Kindle, E. M., 4; Powers, S., 1.
Fungi, fossil.—Ellis, D., 1–4.
Fulgur.—Smith, Burnett, 1.
Fulgurites, Sahara & Pyrenees.—Lacroix, A., 21.
——, S. Australia.—White, S. A.
——, artificial.—Musy, M., 1.
Fuller's earth, New Zealand.—Morgan, P. G., 6.
—— ——, production of.—Middleton, J., 2.
Funnel structure, Mexican oil fields.—Garfias, V. R., 2.
Furbero oil field (Mexico).—Golyer, E. de, 2.
Furcirhynchia.—Buckman, S. S., 4.
Fure, Lake (Denmark).—Wesenberg-Lund, C.
Furnacite.—Lacroix, A., 22.
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Fusion, at high temperatures & pressures.—Morey, G. W., 2.
Fusinus.—Anderson, F. M.; Clark, B. L., 5; Dall, W. H., 2 & 5; Dickerson, R. E., 6 & 9; Marshall, P., 13; Nomland, J. O., 6.
Fusulina.—Deprat, J., 2; Girty, G. H., 1.
Fusulina Limestone, Sicily.—Stefano, G. de, 1.
Fusulinidæ.—Deprat, J., 2 & 4.
Fusus.—Cossmann, M., 1; Dickerson, R. E., 5; Greco, B., 3; Harmer, F. W., 2; Martin, K.; Nœrregaard, E. M., 1; Wade, B., 2.
Futa-Jallon (Fr. Guinea).—Hubert, H., 5.

Gaas (S. France).—Canu, F., 2.
Gabamichigami, Lake (Minnesota).—Nebel, M. L., 2.
Gabbro, Duluth (Minnesota).—Broderick, T. M., 2 & 3; Grout, F. F., 2–4.
——, Lower Loire.—Lacroix, A., 60.
——, Ontario.—Foye, W. G., 2.
——, Vancouver I.—Clapp, C. H., 7.
Gadina.—Clark, B. L., 1.
Gadolinite.—Doelter, C., 2; Flink, G., 4.
Gadus.—Stefano, G. de, 6.
Gagaria.—Clark, W. B., 3.
Gaillonella.—Lozano, E. D., 3.
Gairdner, Lake (S. Australia).—Cooke, W. T., 2.
Galechirus.—Broom, R., 4.
Galena, argentiferous.—Nissen, A. E.
——, estimation of sulphur in.—Joseph, J. O.; Phillips, W. T.
——, etch figures of.—Ichikawa, S., 2.
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Galena-fluorite deposits.—Goodchild, W. H., 3.
Galena Quadrangle (Illinois).—Trowbridge, A. C., 3.
Galenobismuth, Rhodesia.—Zealley, A. E. V., 4.
Galeocerdo.—Stefano, G. de, 4.
Galeodea.—Dickerson, R. E., 5, 6 & 9; Waring, C. A.
Galeomma.—Cossmann, M., 8.
Galeops,—Broom, R., 4.
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Galesuchus.—Haughton, S. H., 1.
Galetta (Ontario).—Newnam, W. E.
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GALITZIN, Prince BORIS, *Obit.—See* Schuster, Sir A., 2; & Shaw, N.
Galium.—Reid, C., 6.
Gallatinia.—Walcott, C. D., 2.
Galletto (Lombardy).—Bassani, F., 2.
Gallinuloides.—Shufeldt, R. W., 1.
Gallio (Venetia).—Canavari, M., 3.
Gallium, recovery of.—Hillebrand, W. F.
Gallup Basin (New Mexico).—Kirk, C. T., 1.
Galway, Co. (Ireland).—Cole, G. A. J., 3.
Gamleby (Sweden).—Munthe, H., 7; Svenonius, F., 1.
Gangetic Plain, structure of the.—Oldham, R. D., 4.
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Ganister deposits, Gt. Britain.—Hinxman, L. W., 3; *see also* GREAT BRITAIN, 11.
Ganoidea, Triassic.—Lambe, L. M., 2.
Ganomalite.—Flink, G., 4; Zenzén, N., 1 & 3.
Ganophyllite.—Flink, G., 4.
Garabal Hill (Dumbarton).—Scott, A., 3.
Gard, Dept. (France).—Termier, P., 15; Thiéry, P., 2 & 3.

Garda, Lake (Italy).—Cacciamali, G. B., 1; Patrini, P., 2.
Gargan (France).—Dollot, A., 6.
Garnet.—Flink, G., 4.
——, alteration of granite to.—Brock, R. W., 2.
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——, etch figures of.—Ichikawa, S., 3.
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Garnet, Lake District.—Green, J. F. N., 1.
——, Madagascar.—Lacroix, A., 2.
——, Sardinia.—Manasse, E., 1.
——, Switzerland.—Grubenmann, U., 2.
Garo Hills, Assam (India).—Pinfold, E. S., 2.
Garrel Burn (Stirling).—Macnair, P., 3.
Garta (Norway).—Aminoff, G., 1.

Gas, Alabama.—Hager, D., 4.
——, Alberta.—Dowling, D. B., 3, 12, 13, 16 & 17; Slipper, S. E., 3 & 5.
——, America.—Arnold, R., 3.
——, Arkansas.—Smith, C. D., 1 & 2.
——, British Columbia.—Rice, G. S., 1.
——, Canada.—Clapp, F. G., 4; Malcolm, W., 1.
——, ——, radioactivity of.—Satterly, J., 2.
——, Colorado.—Burrell, G. A.
——, Gt. Britain.—Strahan, Sir A., 16.
——, Illinois.—Blatchley, R. S., 1; Hinds, H., 1; Kay, F. H., 1; Rich, J. L., 3 & 4.
——, Kentucky.—Fohs, F. J.
——, Louisiana.—Matson, G. C., 2.
——, Mississippi.—Hopkins, O. B., 2.
——, New South Wales.—Mingaye, J. C. H., 1.
——, Ohio.—Condit, D. D., 1; Panyity, L. S.; Van Horn, F. R., 2.
——, Oklahoma.—Beal, C. H.; Buttram, F., 2; Heald, K. C.; Mickle, G. R.; Smith, C. D., 1 & 2; Wegemann, C. H., 4, 5, 8 & 10.
——, Queensland.—Cameron, W. E., 2.
——, Texas.—Matson, G. C., 2; Shaw, E. W., 15; Wegemann, C. H., 6 & 7.
——, Utah.—Lupton, C. T., 1.
——, Washington.—Weaver, C. E., 4.
——, Wyoming.—Barnett, V. H., 1; Lupton, C. T., 3.
——, as an economic mineral.—Henderson, J. A. L., 1 & 2.
Gas, calorific value of.—Allen, H. C.
——, dissolved in water.—Richardson, F. W.
——, movements of, through rocks.—Washburne, C. W., 5; Ziegler, V., 2.
——, from mud-lumps, Mississippi R.—Shaw, E. W., 1.
——, origin of natural.—Guareschi, I., 1.
——, permeability of coal to.—Graham, J. I., 3 & 4.
——, production of natural.—Johnson, R. H., 4; Northrop, J. D., 1.
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——, in spring water.—Moureu, C.
——, transportation of natural.—Towl, F. M.
——, utilisation of natural.—Gabrié, R. M.
Gas fields, classification of.—Clapp, F. G., 1.
—— sands, Oklahoma.—Berger, W. R., 2.
—— ——, water in.—Johnson, R. H., 3.
—— wells, physical tests of.—Boyle, R. W.
—— ——, through coal seams.—Rice, G. S., 3.
Gascony (France).—Blayac, J., 2; Cayeux, L., 5; Harlé, E., 4 & 5.
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——, Kilauea.—Shepherd, E. S.
——, Vesuvius.—Rossi, R.
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Gasoline, in Alberta gas.—Dowling, D. B., 17.
Gaspary, I. of (W. Indies).—Meunier, S., 10.
Gaspé, Co. (Quebec).—Mailhiot, A., 3.
Gastrana.—Cossmann, M., 1 & 8; Martin, K.; Newton, R. B., 1
Gastrioceras.—Girty, G. H., 1 & 2.
Gastrochœna.—Cossmann, M., 8; Dall, W. H., 2; Martin, K.; Morgan, J. de, 1.
Gastrodonta.—Cockerell, T. D. A., 1.
Gastrolites.—Reusch, H., 12; Wiman, C., 7.
Gastropella.—Canu, F., 11.
Gastropoda, Cretaceous.—Allen, H. A., 2; Wade, B., 2 & 3.
——, Eocene.—Martin, K.
——, Jurassic.—Odling, M., 3.
——, Mesozoic.—Robinson, W. I., 1.
——, Miocene.—Koenen, A. von.
——, Silurian.—Chapman, F., 6.
——, Tertiary.—Cockerell, T. D. A., 5; English, W. A., 1; Marshall, P., 6; Savornin, J., 1.
Gatineau R. (Quebec).—Cooke, H. C., 4.

Gatooma dist. (S. Rhodesia).—Zealley, A. E. V., 6, 9 & 10.
Gatunia.—Rathbun, M. J., 4.
Gaudryina.—Chapman, F., 18; Cushman, J. A., 1.
Gault, Kent.—Osman, C. W.
Gauthier Township (Ontario).—Burrows, A. G., 3.
Gavardo (Lombardy).—Cacciamali, G. B., 2.
Gavia.—Shufeldt, R. W., 2.
Gavial, late Tertiary, Florida.—Sellards, E. H., 1.
Gavialis.—Fourtau, R., 5.
Gavignano (Rome).—Meli, R., 5.
Gay Gulch (Yukon Terr.).—Johnston, R. A. A., 2.
Gay Head (Massachusetts).—Allen, G. M.
Gazella.—Pavlow, M., 1.
Gearksuite.—Larsen, E. S., 4.
Gedrite.—Flink, G., 1.
Geelong (Victoria).—Skeats, E. W., 2.
Gehlenite.—Clarke, F. W., 4.
GEIKIE, J., *Biogr.*—*See* Newbigin, M. I.
——, *Obit.*—*See* Anon., 26; Hickling, G., 2; Horne, J., 4; Judd, J. W., 1; & Woodward, A. S., 8.
Geitsi Gubib, volcano (German S.-W. Africa).—Rogers, A. W., 3.
Gelbe Birke (Saxony).—Berberich, P.
Geldie R. (Scotland).—Bremner, A., 2.
Gelli Hill (Radnorshire).—Smith, H. G., 2.
Gellivare (Lappland).—Geijer, P., 6.
Gelocus.—Cooper, C. F.
Gels, precipitation & stratification in absence of.—Dreaper, W. P.
Gem stones, Madagascar.—Lacroix, A., 74.
—— ——, Ural Mts.—Purington, C. W., 3.
Gems, artificial.—Michel, H., 2.
Genesee Shale, N. America.—Grabau, A. W., 6.
Geneva (Switzerland).—Guci, C.
Genotia.—Cossmann, M., 1; Martin, K.
Genotypes, of Polyzoa.—Lang, W. D., 4.
Geocapromys.—Allen, G. M., 2.
Geocronite.—Means, A. H., 2.
Geodes, Euganean Hills.—Billows, E.
——, Keokuk beds, Mississippi.—Van Tuyl, F. M., 1.
——, Monte Somma.—Cesàro, G., 9.
Geodetic results, geological interpretation of.—Burrard, Sir S. G., 3; Oldham, R. D., 6.
Geodromicus.—Mjœberg, E.
Geography, geology &.—Arstal, A.
——, post-Jurassic, of Australia.—Andrews, E. C., 4.
Geological abstracts.—Tilley, C. E.
—— climates.—Schuchert, C., 1.
Geological collections, arrangement of.—Andrée, K., 2 & 3.
—— Department, Imperial College of Science & Technology.—Cullis, C. G., 2.
—— ——, University College.—Leach, A. L., 4.
—— Institute, Mexico.—Paredes, T., 4.
—— maps.—*See* Maps, geological.
—— methods.—Stevenson, J. J., 1.
—— model, Bernese Alps.—Girardin, P., 8.
—— photographs.—Watts, W. W., 5 & 6.
—— problems, radioactivity &.—Kynaston, H.
—— research, modern languages &.—Barrell, J., 14.
—— succession, N. America.—Schuchert, C., 20.
—— ——, Rhodesia.—Maufe, H. B., 6.
—— Society, Denmark.—Hintze, V.
—— ——, Royal, of Cornwall.—Collins, J. H., 3.
—— specimens, collection of.—Grabham, G. W.
—— stories.—Taylor, J. E.
—— structure, magnetic disturbance &.—Cox, A. H., 4 & 7.
—— surfaces, classification of.—Johnson, R. W., 2.
—— Survey, Canada.—*See* CANADA, 1, 11, 14, 16, 18 & 19.
—— ——, Gold Coast.—*See* GOLD COAST, 1–3.
—— ——, Gt. Britain.—*See* GREAT BRITAIN, 12–16.
—— ——, Illinois.—Wolf, F. W. de, 1–4.
—— ——, India.—Hayden, Sir H. H., 5, 8, 10 & 13; Middlemiss, C. S., 1.
—— ——, Iowa.—Kay, G. F., 1, 2, 5 & 7.
—— ——, Japan.—*See* JAPAN, 1–5.
—— ——, Mysore.—Jayaram, B., 5 & 6; Smeeth, W. F., 1, 3 & 5.
—— ——, New Jersey.—*See* NEW JERSEY, 1 & 2.
—— ——, New Zealand.—*See* NEW ZEALAND, 3–8.
—— ——, Normandy.—Bigot, A., 1, 3 & 4.
—— ——, Norway.—Reusch, H., 1.
—— ——, Oklahoma.—Shannon, P. W.
—— ——, Portugal.—Choffat, C., 5.
—— ——, Queensland.—Dixon, R.
—— ——, S. Australia.—*See* SOUTH AUSTRALIA, 1–3.
—— ——, S. Rhodesia.—*See* SOUTHERN RHODESIA, 1–4.
—— ——, Switzerland.—Aeppli, A.
—— ——, Travancore.—*See* TRAVANCORE, 1 & 2.

Geological Survey, United States.—Smith, G. O., 4; *see also* UNITED STATES.
—— ——, —— ——, war work of the.—Smith, P. S.
—— ——, W. Australia.—*See* WESTERN AUSTRALIA, 9–13.
—— Surveys, history of.—Smith, G. O., 5.
—— ——, State organization & functions of.—Morgan, P. G., 8.
—— terms, N. Staffordshire coal field.—Stobbs, J. T., 1.
—— time.—Barrell, J., 8; Geikie, Sir A., 1; Harker, A., 2.
—— ——, radioactivity &.—Holmes, A., 4; Shelton, H. S., 2.
Geologists, State, & Conservation.—Purdue, A. H.
Geologists' Association, future work of the.—Barrow, G., 5.
Geology, American.—Barrell, J., 13.
——, Denmark.—Madsen, V., 5.
——, in Paris.—Lacroix, A., 70.
——, advanced instruction in.—Gregory, H. E., 9.
——, Agricultural.—Rastall, R. H., 2.
——, colloidal chemistry &.—Blanck, E., 1.
——, continental.—Coleman, A. P., 7.
——, degrees for proficiency in.—Haworth, E.
——, Economic.—Emmons, W. H., 2; Lane, A. C., 4; Lindgren, W., 10.
——, Elements of.—Le Conte, J.
——, Engineering.—Ries, H., 6.
——, evolution of herbaceous plants &.—Sinnott, E. W., 2.
——, experiment in.—Adams, F. D., 2.
——, Field.—Farrell, J. H.; Geikie, J., 1.
——, Geography &.—Arstal, A.
——, glacial, James Geikie &.—Horne, J., 5.
——, Historical.—Pirsson, L. V., 5; Schuchert, C., 14.
——, Metamorphic.—Leith, C. K., 5.
——, Mining.—Hatch, F. H., 1; Park, J., 6.
——, Oil Field.—Hager, D., 5.
——, physico-chemical methods in.—Gossner, B.
——, pre-historic problems in.—Smith, R. A., 1.
——, progress in.—Stobbs, J. T., 4.
——, relation of, to exact sciences.—Harker, A., 2.
——, sanitation &.—Lapworth, H.
——, the State &.—Clarke, J. M., 8.
——, stratigraphical, use of vertebrate fossil in.—Woodward, A. S., 3 & 9.
——, structural.—Barrell, J., 10; Geikie, J., 1; Leith, C. K., 1.
——, study of.—Evans, J. W., 8.
Geology, submarine.—Launay, L. de.
——, teaching of.—Wagner, P.
——, Text-Book of.—Park, J., 1.
——, War &.—Cleland, H. F, 2; Craveri, M., 3; Gregory, J. W., 27; King, W. B. R.; Renier, A., 5; Strahan, Sir A., 4.
Geophysical Laboratory, Washington.—Sosman, R. B., 4; *see also* CARNEGIE INSTITUTION.
Geophysics, Physics &.—Bjerknes, V.
Georgia (U.S.A.).—Berry, E. W., 10; Dall, W. H., 5; McCallie, S. W.
——, minerals.—Hopkins, O. B., 1; Vander Meulen, P. A., 1.
——, water-supply.—Stephenson, L. W., 4.
Georgiadesite.—Doelter, C., 1.
Georgetown (Idaho).—Richards, R. W.
—— (Montana).—Billingsley, P., 1.
Geosyncline, Auvergne.—Glangeaud, P., 4.
——, W. United States.—Van Tuyl, F. M., 9.
Geosynclines, formation of.—Belot, E., 13; Guébhard, A., 22.
——, petroliferous deposits &.—Daly, M. R., 2.
Geotechnical Commission, Switzerland.—Grubenmann, U., 1.
Geoteresis, the term.—Coldstream, W.
Geraci (Sicily).—Gregorio, A. de, 5.
German East Africa.—Fourmarier, P., 1; *see also* IMPERIAL INSTITUTE, 2.
—— South-West Africa.—Versfeld, W., 2; Wagner, P. A., 1 & 4; *see also* IMPERIAL INSTITUTE, 3 & 4.
Germanium, extraction of.—Blondel, —.
——, in zinc ores.—Buchanan, G. H., 1 & 2.
Germany, climate & weathering in.—Meyer, H. L. F.
——, geological cartography in.—Koehne, W.
——, lignite mining in.—Young, G. J., 2.
——, solifluction in.—Salomon, W., 3.
——(North).—Boehnke, K.; Koenen, A. von.
—— (—), glaciation.—Gagel, C. Tietze, O.
—— (—), surface deposits.—Wahnschaffe, F.
Germula Mt. (Venetia).—Vinassa de Regny, P., 1.
Geronites.—Cockerell, T. D. A., 2.
Gerringong (N.S.W.).—Benson, W. N., 1.
Gervillia.—Frauenfelder, A.; Fucini, A.; Krenkel, E.; Mansuy, H., 1.
Gersbyite.—Doelter, C., 1.
Gersdorffite, Rhodesia.—Zealley, A. E. V., 4.
Gettysburg (Pennsylvania).—Stose, G. W.

Geysers, Yellowstone Park (U.S.A.).—*See* Smithsonian Institution, 3.
Gez, Pic de (Pyrenees).—Douvillé, H., 29.
Gharb dist. (W. Morocco).—Lecointre, G., 5.
Ghyssegnies (Belgium).—Halet, F., 3.
Giants' Kettles, formation of.—Svenonius, F., 6; *see also* Potholes.
Gibbirhynchia.—Buckman, S. S., 4.
Gibbo R. (Victoria).—Dunn, E. J., 13.
Gibbula.—Cerulli-Irelli, S., 2; Marshall, P., 8.
Gibraltar, Straits of.—Dupuy de Lome, E., 3.
Gieseckite.—Doelter, C., 2.
Gigandipus.—Lull, R. S., 3.
Gigantopteris.—Yabe, H., 4.
Gigantornis.—Andrews, C. W., 8.
Giglio (Umbria).—Sabatini, V., 3.
——, I. of (Tyrrhenian Sea).—Millosevich, F., 4 & 5.
Gilbert, G. K., *Obit.*—*See* Anon., 27; Chamberlin, T. C., 3; Cole, G. A. J., 12; & Davis, W. M., 16.
Gilgit.—Hayden, Sir H. H., 4.
Gilgoin (N.S.W.).—Mingaye, J. C. H., 5.
Gillespie, W. H., *Biogr.*—*See* Urquhart, J.
Gillespie Quadrangle (Illinois).—Lee, W.
Gilmore (Idaho).—Nichols, R.
Gilpin Co. (Colorado).—Alsdorf, P. R.; Bastin, E. S., 1 & 5; Collins, H.; McLaughlin, D. H., 2; Ungemach, H., 3.
Gingin Chalk, Western Australia.—Chapman, F., 18.
Ginglymostoma.—Priem, F., 4 & 6.
Ginkgo.—Martin, E. A., 2; Nathorst, A. G., 5 & 8; Walkom, A. B., 3–5.
Ginkgophyllum.—Matthew, G. F., 3.
Gippsland (Victoria).—Chapman, F., 24; Dunn, E. J., 15; Kitson, A. E., 2.
Girgenti (Sicily).—Gregorio, A. de, 6; Spencer, L. J., 4.
Gironde (France).—Canu, F., 1.
Girtyella.—Clark, T. H.; Girty, G. H., 2; Weller, S., 1.
Girvan (Ayrshire).—Harrison, J. V., 1; Reed, F. R. C., 4.
Girvanaster.—Spencer, W. K., 1.
Girvanella.—Etheridge, R., *fil.*, 5; Garwood, E. J., 1; Lapparent, J. de, 5; Macnair, P., 8; Romanes, M. F.; Sampelayo, P. H., 1.
Gisborne dist. (N.Z.).—*See* New Zealand, 3 & 5.
Gisortia.—Douvillé, H., 22.
Giumal Sandstone, Himalaya.—Spitz, A., 1.
Givetian, Belgium.—Maillieux, E., 7 & 8.
——, Normandy.—Dehorne, Y., 2.
Glacial climates.—Frœdin, G., 9; Marr, J. E., 4.
—— deposits, Arizona & Utah.—Gregory, H. E., 4.
—— ——, Canada.—Goldthwait, J. W., 3.
—— ——, Colorado.—Atwood, W. W., 1.
—— ——, Dee Valley.—Smith, Bernard, 4.
—— ——, Denmark.—Jessen, A., 2 & 4; Madsen, V., 2.
—— ——, Durham.—Haselhurst, S. R., 1.
—— ——, East Anglia.—Boswell, P. G. H., 11; Kendall, H. G. O., 1.
—— ——, Finland.—Hausen, H., 1.
—— ——, Germany (N.).—Wahnschaffe, F.
—— ——, Illinois.—Shaw, E. W., 10.
—— ——, Klondike.—Tyrrell, J. B., 10.
—— ——, Lea Valley.—Reid, C., 1; Warren, S. H., 2.
—— ——, Lombardy.—Cacciamali, G. B., 1.
—— ——, Manchester.—March, M. C.
—— ——, N.-E. Scotland.—Bremner, A., 4 & 5.
—— ——, Sweden.—Bodman, G.; Frœdin, G., 6; Gustafsson, J. P.; Hadding, A., 4; Hœgbom, A. G., 5.
—— ——, Switzerland.—Beck, B.; Hug, J.
—— ——, United States (W.).—Leverett, F., 3.
—— ——, classification of.—Nordenskjœld, O., 3.
—— ——, facetted pebbles &.—Jackson, J. W., 4.
—— ——, Permo-Carboniferous, Massachusetts.—Sayles, R. W., 2.
—— ——, ——, S. America.—Coleman, A. P., 11.
—— ——, pre-Carboniferous, S. Africa.—Cloos, H., 2.
—— ——. *See also* Interglacial & Fluvio-glacial deposits.
—— erosion, Central France.—Glangeaud, P., 15.
—— ——, Gotland.—Munthe, H., 1.
—— ——, Illinois.—Rich, J. L., 2.
—— ——, Montana.—Davis, W. M., 12.
—— ——, New Zealand.—Park, J., 4.
—— ——, Norway.—Reusch, H., 10.
—— ——, Scotland.—Bremner, A., 3.
—— ——, Sweden.—Frœdin, G., 8; Hœgbom, B., 1; Sahlstrœm, K. E., 2.
—— Geology, James Geikie &.—Horne, J., 5.
—— Period, the.—Reagan, A. B.
—— ——, France.—Combaz, P.
—— ——, Sweden.—Horne, J., 6; Sundelin, U.

Glacial Period. *See also* Ice age.
—— periods, theory & causes of.—Brooks, C. E. P., 2; Huntington, E., 1.
—— phenomena, theories of.—Meunier, S., 7.
—— striæ, Norway.—Schiœtz, O. E.
Glaciated Regions, climate of.—Nordenskjœld, O., 2.
Glaciation, Adirondack Mts.—Alling, H. L., 1.
——, Alaska.—Cadell, H. M., 3; Capps, S. R., 3 & 4; Moffit, F. H., 2.
——, ——, Palæozoic.—Kirk, E., 1.
——, Albania.—Dedijer, J.
——, Apennines.—Franchi, S., 7.
——, Bolivia.—Herzog, T.
——, British Columbia.—Tyrrell, J. B., 12.
——, California.—Huntington, E., 2.
——, Catskill Mts.—Rich, J. L., 1 & 5.
——, Central & South Africa.—Hennig, E., 2.
——, Colorado (S.), Eocene.—Atwood, W. W., 4.
——, Durham.—Trechmann, C. T., 1.
——, Europe (N.).—Geer, G. de, 8.
——, Germany (N.).—Gagel, C.; Tietze, O.
——, Green Mts., Vermont.—Goldthwait, J. W., 6.
——, Himalaya (E.).—Gregory, J. W. 36.
——, Iowa.—Alden, W. C.
——, Isère Valley.—Hollande, D.
——, Japanese Alps.—Oseki, K., 1 & 2.
——, Mongolia.—Pælsi, S.
——, New Hampshire.—Goldthwait, J. W., 5; Johnson, D. W., 2.
——, New York.—Barker, E. E.; Hausman, L. A.; Johnson, D. W., 2.
——, New Zealand.—Park, J., 7; Speight, R., 10; Trechmann, C. T., 4.
——, Norway.—Schiœtz, O. E.
——, Pennine Range.—Jowett, A.
——, Pindus Mts.—Niculescu, C., 4.
——, Pyrenees.—Mendel, O.
——, Scandinavia.—Enquist, F., 3.
——, Scandinavian & Alpine.—Geer, G. de, 11.
——, —— & N. American.—Geer, G. de, 7.
——, Sierra da Estrella, Portugal.—Fleury, E., 3.
——, Sweden.—Eriksson, K.; Frœdin, G., 1 & 2; Geer, G. de, 1, 3, & 5–7; Geijer, P., 6; Hœgbom, A. G., 1; Sahlstrœm, K. E., 2.
——, Tasmania.—Benson, W. N., 8.
——, Valle Sesia, Italy.—Franchi, S., 8.
——, Wye Valley.—Richardson, L., 5.
——, Wyoming.—Dake, C. L., 5.
Glacier coal field (Washington).—Woodruff, E. G., 2.
Glacier ice, gaseous bubbles in.—Mercanton, P. L., 5.
—— lakes, Adirondack Mts.—Alling, H. L., 1.
——, Auvergne.—Glangeaud, P., 7.
—— ——, Norway.—Holmsen, G., 1, 3, 4 & 6; Reusch, H., 11.
—— ——, Piedmont.—Preller, C. S. du R., 13.
—— ——, Sweden.—Sandegren, R., 2 & 4.
—— ——, overflow channels from.—Bonney, T. G., 3 & 6; Kendall, P. F., 1; Smith, Bernard, 1.
—— National Park (Montana).—Burling, L. D., 2; Campbell, M. R., 3.
—— streams.—Freshfield, D. W., 4.
Glaciers, Allalin.—Luetschg, O., 2.
——, Franz Joseph, N.Z.—Speight, R., 2.
——, Greenland.—Koch, J. P., 1 & 2.
——, Irish Sea.—Hinch, J. de W.
——, Jura.—Bourgeat, l'Abbé, 6.
——, Kumaon Himalaya.—Grinlinton, J. L.
——, Lombardy.—Mariani, E., 1; Sangiorgi, D., 1, 3 & 4.
——, Maritime Alps.—Roccati, A., 1 & 5.
——, Miage.—Porro, F., 1; Sacco, F., 6.
——, Mont Blanc.—Sacco, F., 10.
——, Monte Cervino (Matterhorn).—Sacco, F., 5.
——, Monte Rosa.—Monterin, U., 1 & 4; Reina, V., 3.
——, New Zealand.—Park, J., 4.
——, Norway.—Holmsen, G., 3; Œyen, P. A., 5.
——, Pennine Alps.—Monterin, U., 2.
——, Piedmont.—Novarese, V., 1 & 2; Porro, F., 1–3.
——, Rhone.—Heim, Alb., 5; Mercanton, P. L., 1.
——, Ruitor.—Sacco, F., 4.
——, Savoy.—Girardin, P., 1.
——, Schwarzenberg.—Luetschg, O., 2.
——, Sweden.—Frœdin, G., 1.
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——, Vanoise.—Girardin, P., 5.
——, Yunnan-Tibet frontier.—Ward, F. K., 1.
——, ancient, Auvergne.—Glangeaud, P., 2, 7, 9, 10 & 15.
——, effects of wind on distribution of.—Enquist, F., 2.
——, oscillations of.—Deeley, R. M., 5; Gorceix, C., 2; Hamberg, A., 4; Muret, E.; Reid, H. F., 1 & 3.

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Glans.—Newton, R. B., 1.
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Glass, devitrification of.—Le Chatelier, H., 1.
——, relative strains in.—Wright, F. E., 1.
——, rupturing of.—Gaubert, P., 8.
——, volcanic, Cantal.—Lacroix, A., 41.
Glassia.—Parks, W. A., 2.
Glastonbury (Somerset).—Dawkins, Sir W. B., 2.
Glauconite.—Sahlbom, N., 2.
—— sands, France.—Charpiat, R., 4, 10 & 13.
—— ——, New Jersey.—Mansfield, G. R., 5.
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Glaucosaurus.—Williston, S. W., 1.
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Gleichenites.—Halle, T. G., 1.
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Glen Coe (Scotland).—Bailey, E. B., 4.
Glencroe (Scotland).—Clough, C. T., 1.
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Glen Rose Limestone (Texas).—Shuler, E. W., 2.
Glenn oilfield (Oklahoma).—Smith, C. D., 2.
Gleviceras.—Buckman, S. S., 3.
Globigerina.—Chapman, F., 18; Lapparent, J. de, 2; Molengraaff, G. A. F., 4.
Globirhynchia.—Buckman, S. S., 4.
Globosite.—Doelter, C., 1.
Glossina.—Weller, S., 1.
Glossites.—Williams, H. S., 2.
Glossograptus.—Hadding, A., 2.
Glossopteris.—Wieland, G. R., 1.
—— beds, Queensland.—Reid, J. H., 1.
Gloucestershire.—Embrey, G., 2; Reynolds, S. H., 6; Richardson, L., 3.
Glucina, extraction of.—Copaux, H.
Glycimeris.—Chapman, F., 16; Clark, B. L., 1 & 5; Dall, W. H., 2 & 5; Dickerson, R. E., 5, 6 & 9; Marshall, P., 8; Pilsbry, H. A., 3; Waring, C. A.
Glyphea.—Etheridge, R., *fil.*, 6.
Glyphioceras.—Crick, G. C., 4; Dunlop, R., 2; Vaughan, A., 1.
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Glyptodon.—Hay, O. P., 5.
Glyptograptus.—Dollé, L., 1.
Glyptolepis.—Watson, D. M. S., 11.
Glyptopleura.—Girty, G. H., 2.
Glyptopomus.—Watson, D.M.S., 11.
Glyptostrobus.—Baumberger, E., 2; Nathorst, A. G., 1.
Gnathorhynchia.—Buckman, S. S., 4.
Gneiss, Antigorio.—Lincio, G., 1.
——, Co. Galway.—Cole, G. A. J., 3.
——, Hohe Tauern, Austria.—Schurk, L.
——, New York.—Newland, D. H., 2.
——, Portugal.—Lacroix, A., 40.
——, Somaliland.—Manasse, E., 3.
——, Switzerland.—Arndt, H.; Hugi, E.
——, Taimur I., Siberia.—Backlund, H., 3.
——, origin of.—Meunier, S., 1 & 8.
Gneissic rocks, Western Australia.—Aurousseau, M., 2.
Gnetopsis.—Depape, G.
Gnetum.—Reid, C., 6.
Gnomonic projection, in crystallography.—Hilton, H., 2.
Godstone (Surrey).—Cox, A. H., 2; Whitaker, W., 4.
Goemai Mts. (Sumatra).—Tobler, A., 1.
GŒRGŒ, Baron GŒRGEY von, *Obit.*—*See* Anon., 28; Becke, F., 3; & Berwerth, F., 2.
Gogebic Range (Michigan).—Allen, R. C.
Gogia.—Walcott, C. D., 8.
Gold, America.—Lindgren, W., 5.
——, Arizona.—Jones, E. L., 1.
——, Ashanti.—Campbell, J. M., 1, Feldtmann, W. R., 2; Johnston, H. I.
——, British Columbia.—Brewer, W. M., 13; Tyrrell, J. B., 11.
——, California.—Alling, M. N.; Ferguson, H. G., 1 & 2.
——, Canada.—Tyrrell, J. B., 5; *see also* CANADA, 3 & 8.
——, Carinthia.—Penny, F. W.
——, Colombia.—Ward, W. F.
——, Cornwall.—Edwards, H.; Symons, B.
——, Dutch East Indies.—Hogenraad, G. B.
——, French Colonies.—Lacroix, A., 56.
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——, Idaho.—Goodrich, R. R.; Jones, E. L., 4.
——, Ivory Coast.—Roux, F.
——, Lower California.—Peña, M., 6.
——, Madagascar.—Bernet, E.

Gold, Manitoba.—Bruce, E. L., 11; Dresser, J. A., 4; Marshall, J. R., 1 & 2.
——, Mexico.—Eaton, A. L.; Fernandez, R., 1 & 3; Peña, M., 2 & 6; Reynoso, F., 2 & 3.
——, Montana.—Billingsley, P., 1; Goodale, C. W.
——, Mysore.—Balaji Rao, B., 1 & 2; Smith, P. B.
——, Nevada.—Knopf, A., 1.
——, New Mexico.—Lee, W. T., 3.
——, New South Wales.—Andrews, E. C., 2 & 3; Harper, L. F., 4.
——, New Zealand.—Gudgeon, C. W.; Henderson, J., 2; Jarman, A.; *see also* NEW ZEALAND, 3.
——, North Saskatchewan R.—Tyrrell, J. B., 3.
——, Northern Terr., S. Australia.—Oliver, T. G.
——, Nova Scotia.—Faribault, E. R., 2, 4 & 5.
——, Ontario.—Baker, M. B., 1; Burrows, A. G., 1–5; Cooke, H. C., 6; Hopkins, P. E., 1, 2 & 6; Johnson, H. H.; Knight, C. W., 3; MacDonald, J. A.; Thomson, E., 2; Tyrrell, J. B., 2.
——, Papua.—Stanley, E. R., 2; *see also* AUSTRALIA, 4–14.
——, Peru.—Ulloa, L.
——, Philippine Is.—Lednicky, V. E.; *see also* PHILIPPINE ISLANDS, 1–3.
——, Piedmont.—Reinhold, T.
——, Quebec.—Tyrrell, J. B., 7.
——, Queensland.—Ball, L. C., 3, 7 & 13; Cameron, W. E., 3; Reid, J. H., 4; Saint-Smith, E. C., 2.
——, Rhodesia.—Corstorphine, G. S.; Zealley, A. E. V., 7; *see also* SOUTHERN RHODESIA, 1.
——, Siberia.—Purington, C. W., 4.
——, S. Africa.—Hall, A. L., 6.
——, S. Australia.—*See* SOUTH AUSTRALIA, 6 & 11–13.
——, Spain.—Marín, A., 2.
——, Straits of Magellan.—Earl, T. C., 2.
——, Sumatra.—Adam, J. W. H.; Caron, M. H.; Hœvig, P., 1.
——, Sze Chuan.—Way, H. W. L.
——, Tasmania.—Twelvetrees, W. H. 4.
——, United States, production.—Brooks, A. H., 1; Dunlop, J. P., 1; Gerry, C. N.; Heikes, V. C., 1–4; Henderson, C. W., 1–3; Hill, J. M., 3; Yale, C. G.
——, Ural Mts.—Purington, C. W., 1.
——, Victoria.—Baragwanath, W., 1, 2, 4, 5 & 9; Dunn, E. J., 4, 10, 12 & 13; Ferguson, W. H., 3; Howitt, A. M., 1–4; Murray, R. A. F.; Stillwell, F. L., 2; Taylor, M. T.; Whitelaw, H. S., 1–6; Whitelaw, O. A. L., 1–3.
Gold, Western Australia.—Blatchford, T., 2; Clarke, E. de C., 1–3; Feldtmann, F. R., 2–4; Honman, C. S., 1–5; Jutson, J. T., 1–4 & 6; McKeown, M. R.; Stuckey, N. S.; Talbot, H. W. B., 1 & 2; Woodward, H. P., 1 & 4; *see also* WESTERN AUSTRALIA, 1 & 10–12.
——, Witwatersrand.—Draper, D., 1; Goodchild, W. H., 2; Honnold, W. L.; Horwood, C. B.; Sawyer, A. R.
——, Wyoming.—Schrader, F. C., 1; Spencer, A. C.
——, Yukon Terr.—Cairnes, D. D., 7 & 8.
——, assay of.—Hall, E. J.; Levy, D. M.
——, deposition of.—Lenher, V., 2.
——, ores of.—Butler, B. S., 1; Cloutman, W. R.,; Fulton, C. H.
——, precipitation of.—Elley, H. W.; Green, M.
——, production of.—McCaskey, H. D., 2.
——, refining of.—Rose, Sir T. K.
Gold Coast (W. Africa).—Ford, S. H.; Kitson, A. E., 1 & 3; *see also* GOLD COAST.
Gold Hill (Utah).—Kemp, J. F., 5.
Golden (B.C.).—Daly, R. A., 4.
Golden Hope mine (Victoria).—Ferguson, W. H., 3.
Golden Ridge (N.Z.).—Hall, T. S., 5.
—— —— (Western Australia).—Honman, C. S., 3 & 5.
Goldenbergia.—Bolton, H., 3.
Goldfield (Nevada).—Shannon, E. V., 2.
Goldius.—Chapman, F., 5.
Goldsborough (Victoria).—Howitt, A. M., 2.
Gomera I. (Canary Is.).—Navarro, L. F., 9 & 10.
GOMES, J. P., *Bibliography.—See* Choffat, P., 2.
Gomphognathus.—Petronievics, B., 4.
Gomphonema.—Lozano, E. D., 3.
Gomphotherium.—Hay, O. P., 6; Sinclair, W. J., 2.
Gomshall (Surrey).—Herries, R. S., 2.
Gondwana System, classification.—Cotter, G. de P., 3.
Goniaster.—Clark, W. B., 3.
Goniastrea.—Vaughan, T. W., 12.
Goniatites, Carboniferous.—Hind, W., 1.
Goniatites.—Girty, G. H., 2; Pruvost, P., 4.
Goniochele.—Rathbun, M. J., 4.
Goniocidaris.—Chapman, F., 16.
Goniograptus.—Hall, T. S., 1.
Gonioloboceras.—Girty, G. H., 1.
Goniometer, crystal-grinding.—Wright, F. E., 3.
——, Students'.—Smith, G. F. H., 5.
Goniomya.—Krenkel, E.

Goniophora.—Fuchs, A.; Gortani, M., 3; Kegel, W.; Mansuy, H., 1 & 4; Spriestersbach, J.; Williams, H. S., 2.
Goniopora.—Nomland, J. O., 1; Vaughan, T. W., 12.
Goniopteris.—Baumberger, E., 2.
Goniopygus.—Clark, W. B., 3; Stefanini, G., 4.
Goniorhynchia.—Buckman, S. S., 4.
Goniostropha.—Chapman, F., 6; Williams, H. S., 2.
Goniothyris.—Buckman, S. S., 4.
Gonorhynchidæ, Eocene.—Cockerell, T. D. A., 15.
Good Springs (Nevada).—Ford, W. E., 8.
Goongarrie (Western Australia).—Jutson, J. T., 9.
Goonoo Goonoo (N.S.W.).—Benson, W. N., 6.
Gorceixite.—Doelter, C., 1.
Gore (Queensland).—Ball, L. C., 9.
Gordonia dist. (Cape Prov.).—Wagner, P. A., 6.
Gorge, pre-glacial, Widnes.—Maidwell, F. T., 2.
Gorges, Interglacial, New York.—Rich, J. L., 7.
——. *See also* River-gorges.
Gorgonella.—Nielsen, K. B., 4 & 5.
Gorgonia.—Nomland, J. O., 1.
Gorgonognathus.—Haughton, S. H., 1 & 6.
Gorgonopsia.—Haughton, S. H., 1.
Goring (Oxon.).—Chatwin, C. P.
Gorgosaurus.—Lambe, L. M., 3.
Gosavia.—Douvillé, H., 22.
Gosmore (Herts.).—Strahan, Sir A., 5 & 9.
GOSSELET, J., *Obit.*—*See* Dollfus, G. F., 12; Harker, A., 4; Lacroix, A., 36; Leriche, M., 8; & Révil, J., 4.
Gosseletia.—Fuchs, A.; Gardiner, C. I., 3.
Gothlandian, Tonkin.—Deprat, J., 14; Mansuy, H., 4.
Gotland, Isle of (Sweden).—Hede, J. E., 2 & 4; Hedstrœm, H., 4; Hesselman, H., 1; Munthe, H., 1–4 & 6; Rosén, S.; Smith, J., 1; Twenhofel, W. H., 3; Wright, J., *fil.*, 3.
——, ——, peat deposits.—Gavelin, A., 6.
Goudreau dist. (Ontario).—Collins, W. H., 7.
Gough I. (S. Atlantic).—Campbell, R., 3.
Goul Valley (Auvergne).—Dollfus, G. F., 17.
Gouldia.—Krenkel, E.
Gouph Formation, S. Africa.—Haughton, S. H., 1.
Goyazite.—Gramont, A. de, 1; Schaller, W. T., 4.
'Graben,' Utah.—Dake, C. L., 4.
Gracemere (Queensland).—Ball, L. C., 15.
Graculavus.—Shufeldt, R. W., 2.
Graham I. (B.C.).—MacKenzie, J. D., 2, 4 & 7.
Grainsgill (Cumberland).—Scrivenor, J. B., 3.
Grallator.—Lull, R. S., 3.
Grammatodon.—Dunlop, R., 2.
Grammella.—Canu, F., 4 & 11.
Grammysia.—Chapman, F., 23; Kegel, W.; Mansuy, H., 1; Spriestersbach, J.; Williams, H. S., 2.
Grammysioidea.—Williams, H. S., 2.
Grampian Mts. (Scotland).—Macnair, P., 1.
Grampian Sandstones, Victoria.—Chapman, F., 21; Ferguson, W. H., 1.
Granada, Prov. (Spain).—Rubio, J. M., 3.
Grand Canyon (Arizona).—Darton, N. H., 2; Noble, L. F., 1 & 2; Schuchert, C., 12 & 13.
—— —— (Colorado).—Lull, R. S., 8.
GRAND'EURY, F. C., *Obit.*—*See* Anon., 29.
Grand-Vallat (Bouches-du-Rhone).—Cottreau, J., 1.
Grandidierite.—Doelter, C., 2.
Grandirhynchia.—Buckman, S. S., 4.
Grange Burn (Victoria).—Chapman, F., 17.
Grangerella.—Cockerell, T. D. A., 5.
Granges (Switzerland).—Baumberger, E., 1.
Granite, Apennines.—Brusoni, A.
——, Auvergne.—Glangeaud, P., 10.
——, Baveno.—Balzac, F., 4.
——, British Columbia.—Brock, R. W., 2.
——, Cumberland.—Green, J. F. N., 9; Jones, T. A., 1.
——, Donegal.—Cole, G. A. J., 7.
——, Egypt.—Barton, D. C., 2.
——, Finland.—Berghell, H., 2; Sederholm, J. J., 5.
——, I. of Giglio.—Millosevich, F., 5.
——, Java.—Ziegler, K. G. J.
——, Kansas.—Powers, S., 8; Wright, P.
——, Madagascar.—Lacroix, A., 28 & 42.
——, Mexico.—Paredes, T., 6.
——, Montana.—Billingsley, P., 2.
——, Morocco.—Russo, P., 4 & 5.
——, Mt. Sorrel.—Watts, W. W., 2.
——, New York.—Newland, D. H., 2.
——, Norway.—Oxaal, J., 1, 3, 5 & 6.
——, Nova Scotia.—McIntosh, D. S., 1.
——, Ontario.—Collins, W. H., 4.
——, Orange R. Colony.—Shand, S. J., 5.
——, Quebec.—Mailhiot, A., 1.
——, Roumania.—Pamfil, G. P.

Granite, Scotland.—Holmgren, J.
——, Sinai.—Mrazec, L., 3.
——, S. Africa.—Hall, A. L., 1; Walker, A. R. E.
——, S. Dakota.—Paige, S., 2.
——, Sumatra.—Brouwer, H. A., 1.
——, Sweden.—Geijer, P., 3.
——, Switzerland.—Grenouillet, W.; Staub, R., 2 & 4.
——, Taimur I.—Backlund, H., 3.
——, alkaline, pseudomorphs in.—Lacroix, A., 11.
——, disintegration of.—Barton, D. C., 2; Sosman, R. B., 1; Tarr, W. A., 1 & 4.
——, felspars in.—Beljankin, D.
——, graphic.—Lapparent, J. de, 1.
——, new type of.—Lacroix, A., 29.
——, pseudo-eruptive.—Guébhard, A., 20.
——, weathering of.—Fleury, E., 6.
Granite Gorge (Arizona).—Noble, L. F., 2.
Granitic rocks, Belgian Congo.—Ledoux, A., 2.
—— ——, Lake District.—Rastall, R. H., 9.
—— ——, Malay Peninsula.—Willbourn, E. S., 1.
—— ——, Western Australia.—Aurousseau, M., 2.
Granitite, Somaliland.—Manasse, E., 3.
Gränna (Sweden).—Wiman, C., 2.
Granophyre, Cumberland.—Holmes, A., 13.
Grantham (Lincs.).—Preston, H.
Grantown (Nairn).—Hinxman, L. W., 1.
Granulirhynchia.—Buckman, S. S., 4.
Granulite.—Loewinson-Lessing, F., 4.
Graphic granite.—Lapparent, J. de, 1.
Graphite, Gt. Britain.—Strahan, Sir A., 14.
——, Lappland.—Geijer, P., 12.
——, Madagascar.—Shelley, J. W.
——, Mexico.—Peña, M., 5.
——, New Zealand.—Morgan, P. G., 7.
——, Ontario.—Wilson, M. E., 8.
——, Queensland,—Dunstan, B., 5.
——, S. Australia.—*See* SOUTH AUSTRALIA, 9–11 & 13.
——, Sweden.—Lindroth, G. T., 2.
——, W. Australia.—*See* WESTERN AUSTRALIA, 11 & 12.
——, production of.—Bastin, E. S., 2.
——, in xenoliths.—Wagner, P. A., 3.
Graphularia.—Nielsen, K. B., 4.
Graptolite shales, deposition of.—Grabau, A. W., 10.
Graptolites, Gt. Britain.—Elles, G. L.
——, Maryland.—*See* SMITHSONIAN INSTITUTION, 4.
——, New Zealand.—Hall, T. S., 4 & 5.
——, Peru.—Lapworth, C.
Graptolites, Victoria.—Hall, T. S., 1 & 3.
——, Ordovician.—Powell, S. L.
——, Silurian.—Dollé, L., 1; Hede, J. E., 4; Lassine, A., 2 & 4.
Grassy Creek Shale, Missouri.—Greger, D. K.
GRATACAP, L. P., *Obit.*—*See* Anon., 30.
Gravels, Dee Valley.—Smith, Bernard, 4.
——, East Anglia.—Hughes, T. McK., 1; Moir, J. R., 17.
——, Essex.—Gregory, J. W., 7.
——, Hertfordshire.—Peake, A. E., 2.
——, Kansas.—Wooster, L. C., 2.
——, Lea Valley.—Wrigley, A., 1.
——, Norway.—Vogt, J. H. L., 2.
——, Ontario.—Ledoux, A., 9.
——, Thames Valley.—Deeley, R. M., 3; Smith, R. A., 2–4.
——, disturbed.—Deeley, R. M., 6.
——, fluviatile & marine.—Gregory, H. E., 3.
——, tin-bearing, concentration of.—Richardson, W. W.
——. *See also* Placer deposits.
Gravesend (Kent).—Dibley, G. E., 1.
Gravitational acceleration, isostatic reduction of.—Niethammer, T.
Gravity, attraction of.—Loring, F. H.
——, deflection of, in Andes.—Close, Sir C. F., 1; Oldham, R. D., 2.
——, determination of, at sea.—Briggs, L. J.; Duffield, W. G., 1 & 2; Hayford, J. F., 2; Hobbs, W. H., 2; Schuster, Sir A., 1; Wolff, H.
——, measurements of.—Cassinis, G.
——, value of, in India.—Oldham, R. D., 3.
Gravity observations, Sicily.—Venturi, A.
—— ——, United States.—Bowie, W., 3.
Grays (Essex).—Dibley, G. E., 1 & 2.
Grazalema, Serrania de (Spain).—Gavala, J.
Great Basin (U.S.A.).—Merriam, J. C., 4 & 11.
—— ——, water-supply.—Henshaw, F. F., 2; Porter, E. A., 2.
Great Britain, igneous action in.—Harker, A., 5.
—— ——, magnetic survey of.—Walker, G. W., 4.
—— ——, mining industry in.—Redmayne, Sir R. A. S.
—— ——, water-power in.—Newlands, A.
Great Lakes Region (N. America).—Lawson, A. C., 2.
Great Notch (New Jersey).—Cook, C. W.
Great Oolite, Portugal.—Lambert, J., 2.
Great Slave Lake (Canada).—Cameron, A. E., 1 & 2; Camsell, C. 2.

Great Warley (Essex).—Boswell, P. G. H., 5.
Grebena (Macedonia).—Niculescu, C., 3.
Greci (Roumania).—Pamfil, G. P.
Greece.—Critikos, N.; Eginitis, D., 1–8; Goulandris, E., 1 & 2; Négris, P., 2.
——, iron ores in.—Ktenas, C. A.
——. *See also* ATHENS.
GREEN, UPFIELD, *Obit.*—*See* Harker, A., 6; & Sherborn, C. D., 1.
Green Harbour (Spitsbergen).—Isachsen, G., 2.
Green Mts. (Vermont).—Goldthwait, J. W., 6.
Green R. (Colorado).—Hancock, E. T.
—— (Utah).—Emery, W. B., 2; Lupton, C. T., 1.
—— Formation, Colorado & Utah.—Davis, C. A., 2.
Greenbushes tin field (Western Australia).—Farquharson, R. A., 1; Feldtmann, F. R., 1.
Greendale (Victoria).—Baragwanath, W., 6.
Greenhithe (Kent).—Priest, S., 1 & 5.
Greenland.—Koch, J. P., 1 & 2; Koch, L., 2; Jensen, A. S.; Mercanton, P. L., 2 & 3.
——, Cretaceous.—Fritel, P. H., 4; Ravn, J. P. J., 5.
——, native iron from.—Sjœgren, H., 2.
—— (East).—Henriksen, K. L.
—— (North).—Ekblaw, W. E.; Grœnwall, K. A., 6.
Greenockite.—Hiefleitner, G.
Greensand (Lower), Eastern England.—Rastall, R. H., 8.
—— (Kent).—Crick, G. C., 5.
—— (Surrey).—Cox, A. H., 6.
——, alkaline waters from.—Fisher, W. W.
——, flora.—Stopes, M. C., 2 & 4.
Greensand Marl, New Jersey.—*See* NEW JERSEY, 1.
Greenstones, I. of Giglio.—Millosevich, F., 4.
Greenwich Park (Kent).—Leach, A. L., 9.
Gregoryaster.—Checchia-Rispoli, G., 11.
Greisen, Cumberland.—Scrivenor, J. B., 3.
Grenchenberg tunnel (Switzerland).—Buxtorf, A., 2 & 4.
Grenfell Township (Ontario).—Burrows, A. G., 5.
Grenoble (France).—Blanchard, R.; Kilian, W., 2.
Grenouilles (Savoy).—Montandon, R., 2.
Grenville dist. (Quebec).—Wilson, M. E., 4 & 5.
Grenville Mt. (B.C.).—Le Roy, O. E.
'Grès d'Annot,' Liguria.—Franchi, S., 1.
Gresse (Isère).—Hollande, D.
Gresslya.—Krenkel, E.
Grewia.—Baumberger, E., 2.
Greysonia.—Walcott, C. D., 2.
Greywacke, the term.—Salomon, W., 2.
Griffiithides.—Dunlop, R., 2; Girty, G. H., 1; Mitchell, J., 1.
Griffithite.—Larsen, E. S., 3.
Grime's Graves (Norfolk).—Kendall, H. G. O., 4; Peake, A. E., 3.
Grimes Pass (Idaho).—Jones, E. L., 4.
Grimsbury fossil, the.—Walford, E. A.
Grimstad (Norway).—Suleng, H.
Grip (Maine-et-Loire).—Couffon, O.
Griphopithecus.—Gregory, W. K., 5.
Grisons (Switzerland).—Heydweiller, E.; Seidlitz, W. von; Tarnuzzer, C., 1 & 2; Truempy, D.
Grits, Devonshire.—Worth, R. H., 2.
Grondines (Quebec).—Bancroft, J. A., 1.
Grong (Norway).—Vogt, J. H. L., 2.
Grosseto (Italy).—Quercigh, E., 1.
GROTH, J., *Obit.*—*See* Dollfus, G. F., 15.
Grotte du Cheval, La (Dordogne).—Reverdin, L.
Ground ice, Alaska.—Leffingwell, E. de K.
—— ——, New Siberian Is.—Kayser, E., 1.
Grus.—Shufeldt, R. W., 2.
Gryphœa.—Cossmann, M., 7; Greco, B., 1; Krenkel, E.; Spitz, A., 1.
Grythyttan (Sweden).—Sundius, N., 3.
Guadalajara (Mexico).—Waitz, P.
—— (Spain).—Kindelan, V.; Ranz, M.
Guadalupe (Mexico).—Castro, C., 2; Villafaña, A., 2.
Guadarrama, Sierra de (Spain). Cereceda, J. D.; Navarro, L. F., 2.
Gualtieria.—Checchia-Rispoli, G., 7.
Guarda dist. (Portugal).—Youd, H.
Guatemala.—Mitchell, C.; Powers, S., 12.
Guatteria.—Berry, E. W., 18.
Guelma (Algeria).—Blayac, J., 3.
Guelph Formation, Ontario.—Williams, M. Y., 6.
Guembelia.—Prever, P. L.
Guembelina.—Chapman, F., 18.
Guerrero State (Mexico).—Paredes, T., 9.
Guiana, laterite in.—Fermor, L. L., 4.
——. *See also* BRITISH GUIANA.
Guiers Valley (Isère).—Combaz, P.
Guildford (Surrey).—Norris, F. E., 1 & 2.
GUILLEMAIN, C., *Obit.*—*See* Anon., 31.

Guinea, French.—Azema, L., 3; Fermor, L. L., 3; Hubert, H., 1 & 5; Lacroix, A., 66; Sinclair, J. H., 2.
Guisnes (Pas-de-Calais).—Pagniez, —, 1.
Gulf Coast (U.S.A.).—Golyer, E. de, 4; Jones, W. F., 2; Matteson, W. G., 1; Rogers, G. S., 5; Shaw, E. W., 7.
Gulf of Mexico Basins, water-supply. —Gray, G. A.; Stevens, G. C.
Gullane (Haddingtonshire).—Day, T. C., 1–3; Gordon, W. T., 2; Kidston, R., 5.
Gunong Bakau (Malay Pen.).—Jones, W. R., 3.
Guppy, R. J. L., *Obit.*—*See* Newton, R. B., 7.
Gutbiera.—Mœller, H.
Gutzwiller, A., *Obit.*—*See* Buxtorf, A., 9; & Schmidt, C., 3.
Gymnosperms, Jurassic.—Thomas, H. Hamshaw, 1.
Gypsina.—Yabe, H., 7.
Gypsum, Alberta.—Camsell, C., 6.
——, Canada.—Cole, L. H., 1.
——, Derbyshire.—Smith, Bernard, 3.
——, Dholpur State (India).—Heron, A. M., 1.
——, Gt. Britain.—Sherlock, R. L., 10.
——, Italy.—Colomba, L., 3.
——, Manitoba.—MacLean, A., 4; Wallace, R. C., 1.
——, Paris Basin.—Dollot, A., 6.
——, S. Australia.—*See* South Australia, 9.
——, artificial crystals of.—Perrier, C., 1.
——, crystalline form of.—Quercigh, E., 5.
——, etch figures on.—Grengg, R.
——, maximum solubility of.—Le Chatelier, H., 2.
——, Triassic.—Guébhard, A., 2, 3 & 5.
——, twinning of.—Mawson, Sir D., 1; Spencer, L. J., 4.
Gypsum deposits, origin of.—Branson, E. B., 2.
Gyrodes.—Newton, R. B., 11; Waring, C. A.
Gyrodus.—Priem, F., 3 & 7.

Ha-Giang (Tonkin).—Deprat, J., 7.
Habra, l' (Algeria).—Dalloni, M., 12.
Hackberry stage (Iowa).—Fenton, C. L.
Hackmannite.—Doelter, C., 2.
Hadrophyllum.—Yakovlev, N. N.
Haeckel, E., *Biogr.*—*See* Antipa, G.
Hæmatite, Forest of Dean & S. Wales. —Sibly, T. F., 2.
——, Madagascar.—Ungemach, H., 1.
——, Mexico.—Wittich, E., 1.
Hæmatite, North of England.—Smith, Bernard, 5.
——, crystals of.—Fermor, L. L., 6.
——, relations of, with magnetite. —Broderick, T. M., 4.
——, zonal growth in.—Sosman, R. B., 7.
——. *See also* Iron ores.
Haglopsis.—Cockerell, T. D. A., 14.
Hague, A., *Obit.*—*See* Diller, J. S., 6; Harker, A., 6; & Iddings, J. P., 3.
Hahn, F. F., *Obit.*—*See* Steinmann, G., 2.
Hahn, P. D., *Obit.*—*See* Juritz, C. F., 2.
Haidinger's rings, in mica.—Chinmayanandan, T. K.
Haidingerite.—Doelter, C., 1.
Hainault (Belgium).—Cornet, J., 1 & 2; Hallez, H., 1–3; Stainier, X., 2, 4 & 8.
Hainholz (Westphalia).—Prior, G. T., 3.
Haiti (W. Indies).—Jones, W. F., 3; Pilsbry, H. A., 3.
Hakea.—Reid, C., 6.
Halberstadt (Saxony).—Brandes, T.
Haliburton Co. (Ontario).—Foye, W. G., 1–3.
Halifax (Nova Scotia).—McIntosh, D. S., 1.
Halitherium.—Matthew, W. D., 2.
Hall, T. S., *Obit.*—*See* Anon., 32; Chapman, F., 14; & Spencer, W. B.
Hall Sound (Papua).—*See* Australia, 8.
Halleberg (Sweden).—Munthe, H., 4.
Hallopora.—Cumings, E. R., 2; Vinassa de Regny, P., 3.
Halloysite.—Doelter, C., 2; Vander Meulen, P. A., 1.
Halobia.—Mansuy, H., 1; Martin, G. C., 1; Trechmann, C. T., 2.
Haloes, pleochroic.—Joly, J., 1–4.
Halogen salts, of silver.—Burgess, J. A.
Halorella.—Trechmann, C. T., 2.
Halotrichite.—Millesovich, F., 3.
Halysites.—Parks, W. A., 2; Williams, M. Y., 11; Yabe, H., 3.
Hamburgia.—Weller, S., 1.
Hamilton-Telkwa dist. (B.C.).—Galloway, J. D., 8.
Haminea.—Marshall, P., 8.
Hamlinite.—Doelter, C., 1; Schaller, W. T., 4.
Hammam Meskoutin (Algeria).—Joleaud, L., 1.
Hammar Mts. (Sweden).—Frœdin, G., 3.
Hammatoceras.—Principi, P., 5; Zuffardi, P., 1.
Hammerne (Norway).—Oxaal, J., 4.
Hampden beds, N.Z.—Marshall, P., 10.
Hampshire, water-supply.—Whitaker, W., 5.

Hampstead (Middlesex).—Green, J. F. N., 3; *see also* HAMPSTEAD SCIENTIFIC SOCIETY.
Hanagita-Bremner Region (Alaska).—Moffit, F. H., 1.
Hanano-Yama (Japan).—Kato, T., 3.
Hanburia.—Walcott, C. D., 3.
Hancea.—Reid, C., 6.
Hanö (Norway).—Ravn, J. P. J., 6.
Haplobasaltic & Haplodioritic magmas.—Bowen, N. L., 2.
Haplomeryx.—Depéret, C., 5.
Haplomylus.—Matthew, W. D., 12.
Haplophragmium.—Chapman, F., 13 & 18; Smith, J., 1.
Haplostiche.—Chapman, F., 18.
Hapsidopora.—Lang, W. D., 5.
Hapsophyllum.—Girty, G. H., 1.
Har Dalam (Malta).—Bate, D. M. A., 1.
Hardness, of minerals.—Borgstrœm, L. H., 5; Holmquist, P. J., 3.
Härjedal (Sweden).—Frœdin, G., 3.
HARKER, A., *Biogr.*—*See* Anon., 33.
'Härnögyttja,' Sweden.—Mjœberg, E.
Harpacanthus.—Eastman, C. R., 2.
Harpagodes.—Greco, B., 3.
Harpalus.—Wickham, H. F., 3.
Harpedactylus.—Lull, R. S., 3.
Harpeidæ, Silurian.—Etheridge, R., *fil.*, 10.
Harpepus.—Lull, R. S., 3.
Harpes.—Etheridge, R., *fil.*, 10; Gortani, M., 3.
Harpoceras.—Principi, P., 5; Zuffardi, P., 1.
Harricanaw-Turgeon Basin (Quebec).—Tanton, T. L., 2 & 5.
Harriotta.—Leriche, M., 6.
Harstigen (Sweden).—Hedstrœm, H., 3.
Harstigite.—Flink, G., 4.
Hart Mt. (Wyoming).—Dake, C. L., 3.
HARTLEY, Sir W. N., *Obit.*—*See* Anon., 34.
Hartmannsweilerkopf (Alsace).—Dollfus, G. F., 8.
Hartshill (Warwickshire).—Cobbold, E. S., 2.
Hartshillia.—Illing, V. C., 1.
Harttite.—Doelter, C., 1.
Hartwell Clay—Bather, F. A., 6.
Harvard (Massachusetts).—Woodworth, J. B.
Harz Mts. (Germany).—Viola, C., 3.
Harzburg (Germany).—Schmidt, E. W.
Hasdo R. (India).—Fermor, L. L., 2.
Hastings (Sussex).—Abbott, W. J. L., 1.
Hatchettite.—Stainier, X., 8.
Haubourdin (Nord).—Pagniez, —, 3.
Hauenstein tunnel (Switzerland).—Buxtorf, A., 1, 2 & 4; Leuthardt, F., 2; Muehlberg, F.
Hauericeras.—Waring, C. A.
Hauerite.—Quercigh, E., 2.
Haulchin (Belgium).—Cornet, J., 4.
'Hauptrogenstein,' Switzerland.—Struebin, K., 3.
Hausmannia.—Mitchell, J., 2; Walkom, A. B., 2.
Haute-Loire, Dept. (France).—Gonnard, F., 1.
Haute-Vienne, Dept. (France).—Mouret, G., 2.
Hauterivian, S. France.—Kilian, W., 7 & 8.
——, Switzerland,—Heim, Alb., 7.
HAUY, Abbé R. J., *Anniv.*—*See* Anon., 35.
Hauyne.—Doelter, C., 2; Lacroix, A., 47.
Havant (Hampshire).—Thomson, D. H.
Havre, Le (Normandy).—Romain, G.
Hawaii I. (Pacific).—Brown, G. V.; Cross, W., 2; Jaggar, T. A., *fil.*, 1–7; Powers, S., 10; Wood, H. O., 1–3.
——, water-supply.—Larrison, G. K.; Pierce, C. H., 2.
Hawera Series, N.Z.—Thomson, J. A., 11.
HAWTREY, R., *Obit.*—*See* Harker, A., 4.
Hawver Cave (California).—Stock, C., 5.
Hay dist. (S. Africa).—Frood, G. E. B.
HAYES, C. W., *Obit.*—*See* Brooks, A. H., 4; & White, D., 3.
Hayes Common (Kent).—Leach, A. L., 10.
Hayes R. (Canada).—Tyrrell, J. B., 6.
Hazara Dist. (India).—Das Gupta, H. C., 2.
Hazel, distribution of, in Scandinavia.—Samuelsson, G.
Hazelton dist. (B.C.).—O'Neill, J. J., 3 & 4.
Headley-on-the-Hill (Surrey).—Young, G. W., 4.
Healdton oil field (Oklahoma).—Powers, S., 9 & 11; Wegemann, C. H., 9.
Healesville (Victoria).—Junner, N. R., 2.
Heathcote (Victoria).—Dunn, E. J., 6.
Heathcotian, Victoria.—Chapman, F., 22, 23 & 28.
Hebertella.—Chapman, F., 23; Trowbridge, A. C., 3.
Hecticoceras.—Krenkel, E.
Hectoria.—Thomson, J. A., 17; Trechmann, C. T., 2.
Hedera.—Kryshtofovich, A., 2.
Heemskirk tin field (Tasmania).—Waterhouse, L. L., 1.
Heimia.—Buckman, S. S., 4.
Helcionella.—Cobbold, E. S., 2.
Helcionopsis.—Chapman, F., 6.

Helecho.—Lozano, E. D., 1.
Helen mine (Ontario).—Keele, J., 4.
Helena (Montana).—Walcott, C. D., 4.
Helgeland (Norway).—Rekstad, J., 6; Vogt, T., 1.
Heliacus.—Marshall, P., 8 & 13.
Helicaulax.—Lecointre, G., 2.
Helichrysum.—Reid, C., 6.
Helicina.—Dall, W. H., 2.
Helicodonta.—Johansen, A. C.
Helicoprion.—Karpinsky, A.
Heligmina.—Cossmann, M., 7.
Heliocrinus.—Reed, F. R. C., 3.
Heliolites.—Mansuy, H., 4; Vinassa de Regny, P., 1.
Heliopora.—Nielsen, K. B., 4.
Helix.—Cockerell, T. D. A., 1 & 5; Cossmann, M., 1; Dollfus, G. F., 5; Harmer, F. W., 2; Roman, F., 2.
Helland, A., *Obit.*—*See* Œyen, P. A., 9.
Hellandite.—Doelter, C., 2; Zambonini, F., 5.
Hellesdon (Norfolk).—Clarke, W. G., 4.
Helminthoidea.—Fucini, A.
—— zone, Liguria.—Franchi, S., 1 & 3.
Helminthoidichnites.—Walcott, C. D., 2.
Heloderma.—Gilmore, C. W., 1.
Helodus.—Branson, E. B., 3; Diener, C.
Helohyus.—Sinclair, W. J., 1.
Helopora.—Williams, M. Y., 11.
Helsingland (Sweden).—Halden, B. E., 2 & 3.
Helvetian, Macedonia.—Niculescu, C., 3.
Helwingia.—Reid, C., 6.
Hemiacirsa.—Wade, B., 3.
Hemiacodon.—Matthew, W. D., 14.
Hemiaster.—Checchia-Rispoli, G., 7 & 11; Clark, W. B., 3; Fourtau, R., 6; Lambert, J., 3; Ravn, J. P. J., 5; Stefanini, G., 4.
Hemicidaris.—Clark, W. B., 3; Lambert, J., 2.
Hemiconus.—Cossmann, M., 1.
Hemicyclopora.—Canu, F., 11.
Hemielopopsis.—Erasmo, G. d', 1.
Hemifusus.—Dickerson, R. E., 5.
Hemipatagus.—Clark, W. B., 3; Lambert, J., 3.
Hemipristis.—Stefano, G. de, 4.
Hemipronites.—Reed, F. R. C., 3 & 4.
Hemiptera, Triassic.—Tillyard, R. J., 5.
Hemiptychina.—Diener, C.
Hemithersitea.—Savornin, J., 1.
Hemithyris.—Thomson, J. A., 2.
Hemitragus.—Harlé, E., 2.
Hendaye (France).—Douvillé, H., 32; Lapparent, J. de, 3.
Hennepin Quadrangle (Illinois).—Cady, G. H., 2.
Henwoodite.—Doelter, C., 1.
Hepatus.—Rathbun, M. J., 4.
Hepburn (Victoria).—Skeats, E. W., 1.
Heptaxodon.—Anthony, H. E., 3.
Hercolepas.—Withers, T. H., 2.
Hercynella.—Chapman, F., 6 & 20.
Hercynian, Germany.—Drevermann, F., 1.
—— folding, Asturias.—Termier, P., 9.
Herefordshire.—Sorby, H. C.
Hermansburg (Natal).—Wybergh, W.
Hermelles reefs (Brittany).—Galaine, C., 1.
Hernic volcanoes, Italy.—Cumin, G., 2.
Herouvalia.—Cossmann, M., 1.
Hertfordshire.—Hopkinson, J., 1, 3 & 5; Kendall, H. G. O., 3; Kidner, H., 1; Withers, T. H., 1.
Hertingfordbury (Herts.).—Pocock, R. W., 1.
Hesperornis.—Shufeldt, R. W., 2.
Hesse (Germany).—Stehlin, H. G., 5.
Heteracanthus.—Eastman, C. R., 2.
Heteractæa.—Rathbun, M. J., 4.
Heterangium.—Scott, D. H., 5.
Heterochiromys.—Stehlin, H. G., 2.
Heterodiadema.—Clark, W. B., 3.
Heterolasma.—Ehlers, G. M.
Heterolepidotus.—Andersson, E., 2.
Heteromyiella.—Cockerell, T. D. A., 4.
Heteropora.—Cumings, E. R., 2; Faura, M.
Heteropsomys.—Anthony, H. E., 1 & 3; Miller, G. S., 2.
Heteroptera, origin of the.—Tillyard, R. J., 5.
Heterosite.—Doelter, C., 1.
Heterostegina.—Chapman, F., 1; Molengraaff, G. A. F., 4.
Heterosteginoides.—Cushman, J. A., 2.
Heteroterma.—Marshall, P., 8.
Heterotissotia.—Greco, B., 2; Luethy, J.
Heterotrypa.—Cumings, E. R., 2.
Hettangian, Lombardy.—Mariani, E., 2.
Hexacrinus.—Wilson, H. E.
Hexapterospermum.—Bertrand, P., 1.
Hezner, Laura, *Obit.*—*See* Anon., 36.
Hibbenite.—Phillips, A. H., 1.
Hibira (Japan).—Kato, T., 1.
Hickman (Kentucky).—Berry, E. W., 5.
Hidalgo del Parral (Mexico).—Scalia, S., 2.
Hidalgo State (Mexico), water-supply.—Galvez, V., 1.
Hidden, W. E., *Obit.*—*See* Anon., 37; & Kunz, G. F., 3.
Hidden Creek mine (B.C.).—McConnell, R. G., 3.
Hieronymia.—Berry, E. W., 18.
Hierro, I. de (Canary Is.).—Navarro, L. F., 5.

Highfield (Hampshire).—Nicholas, R. E.
Highgate (Middlesex).—Green, J. F. N., 3.
'Highland Quartzites,' Norway.—Goldschmidt, V. M., 1.
Highland Valley (B.C.).—Drysdale, C. W., 5.
Highlands (Scotland).—Bates, G. F., 1; Bremner, A., 6; Horne, J., 3.
Hildoceras.—Mansuy, H., 1; Principi, P., 5; Zuffardi, P., 1.
Hilgard, E. W., *Obit.*—*See* Smith, E. A., 2; & Wickson, E. J.
Hill, F. A., *Obit.*—*See* Halberstadt, B.
Hill, W., *Obit.*—*See* Woodward, A. S., 2.
Hill End (Herts.).—Williams, A. H.
Hillsboro Sandstone, Ohio.—Prosser, C. S., 2.
Hils Mt. (Germany).—Walter, E.
Himalaya, Cretaceous.—Spitz, A., 1.
——, eastern prolongation of axis.—Ward, F. K., 4.
——, Gangetic Trough & the.—Davies, A. M., 4.
——, isostasy in the.—Burrard, Sir S. G., 4.
——, Jurassic.—Steiger, P.
——, rift hypothesis of origin.—Burrard, Sir S. G., 2.
——, structure.—Burrard, Sir S. G., 3; Oldham, R. D., 1 & 4.
——, Trias.—Bonnet, P., 2.
—— (Eastern), glaciation.—Gregory, J. W., 36.
Himalayan Peaks, identification of.—Hinks, A. R., 2.
Himantophyton.—Matthew, G. F., 3.
Hinckley (Leicestershire). — Pickering, A. J.
Hincksina.—Canu, F., 11.
Hinde, G. J., *Obit.*—*See* Anon., 38; & Woodward, H., 4.
Hindella.—Savage, T. E., 4.
Hindhead (Surrey).—Leighton, D.
Hindia.—Trowbridge, A. C., 3.
Hindsia.—Martin, K.
Hinge, of bivalves.—Odhner, N. H., 2.
——, of *Hippurites.*—Parona, C. F., 10.
Hinnites.—Cossmann, M., 7; Dainelli, G.; Newton, R. B., 1; Rollier, L., 3.
Hinsdalite.—Doelter, C., 1.
Hintze, C. A. F., *Obit.*—*See* Anon., 39.
Hipparion.—Hay, O. P., 8; Merriam, J. C., 4, 5, 10 & 15; Osborn, H. F., 10; Pavlow, M., 2; Stehlin, H. G., 1.
——, migrations of.—Joleaud, L., 4 & 5.
Hipparion beds, Algeria.—Dalloni, M., 2.
—— fauna, in Sarmatian.—Arabu, N., 6.
Hipparionyx.—Williams, H. S., 2.
Hippocampoides.—Wade, B., 2.
Hippocystis.—Bather, F. A., 18.
Hippodiplosia.—Canu, F., 3; Faura, M.
Hipponyx.—Cossmann, M., 1; Dall, W. H., 2; Dickerson, R. E., 9; Newton, R. B., 9.
Hippopodina.—Canu, F., 11.
Hippoporina.—Canu, F., 2–5.
Hippotraginæ, migrations of.—Joleaud, L., 5.
Hippozeugosella.—Canu, F., 11.
Hippuris.—Reid, C., 6.
Hippurite Limestone, Stromatopore in.—Dehorne, Y., 5.
Hippurites.—Parona, C. F., 10.
Hirado dist. (Japan).—*See* Japan, 3.
Hirœa.—Berry, E. W., 18.
Hisingerite.—Doelter, C., 2.
Histionotus.—Woodward, A. S., 27.
Histrionicus.—Munthe, H., 5.
Hitchcockite.—Doelter, C., 1.
Hitteren I. (Norway).—Reusch, H., 3.
Ho-nan, Prov. (China).—Matsumoto, H., 2; Wheler, A. S., 1 & 2.
Hochalm-Ankogel Mt. (Austria).—Schurk, L.
Hochland I. (Finland).—Kurki, M. V.
Hodgkinsonite.—Schaller, W. T., 3.
Hoernesite.—Doelter, C., 1.
Höferite.—Doelter, C., 2.
Högbomite.—Gavelin, A., 2.
Hogshooter Gas Sand (Oklahoma).—Berger, W. R., 2.
Hoffmann, G. C., *Obit.*—*See* Ami, H. M.; & Anon., 40.
Hohe Tauern Range (Austria).—Seidlitz, W. von.
Hohoro dist. (Papua).—Langford, W. G., 2.
Hokkaido I. (Japan).—Matsumoto, H., 5; Yehara, S., 1.
Hokonuia.—Trechmann, C. T., 2.
Holaster.—Clark, W. B., 3.
Holcoptera.—Cockerell, T. D. A., 14.
Holcorhynchia & *Holcothyris.*—Buckman, S. S., 4.
Holcotrochus.—Chapman, F., 16.
Holderness (Yorkshire).—Bell, A., 6 & 9.
Holectypoida, morphology. — Hawkins, H. L., 2–10.
Holectypus.—Clark, W. B., 3; Hawkins, H. L., 3 & 4; Krenkel, E.; Stefanini, G., 4.
Holgate, B., *Obit.*—*See* Woodward, A. S., 8.
Holland.—Boehnke, K.; Reid, C., 6.
——, coal fields.—Asselberghs, E., 4; Klein, W. C.
——. *See also* Holland.
Hollandite.—Fermor, L. L., 8.
Hollingworth, G. H., *Obit.*—*See* Woodward, A. S., 8.
Holmes, J. A., *Obit.*—*See* Anon., 41; & Pratt, J. H.

Holmia.—Braastad, J.; Walcott, C. D., 11.
Holmium.—Kremers, H. C., 1.
Holocephalina.—Illing, V. C., 1.
Holopea.—Hede, J. E., 3; Parks, W. A., 2; Reed, F. R. C., 3; Savage, T. E., 4; Williams, H. S., 2; Williams, M. Y., 11.
Holopella.—Stefani, C. de, 4.
Holoporella.—Canu, F., 3 & 13.
Holoptychius.—Watson, D. M. S., 11.
Holospira.—Cockerell, T. D. A., 1.
Holyoke (Massachusetts).—Emerson, B. K., 2.
Holywell (Flintshire).—Strahan, Sir A., 8.
Homacodon.—Sinclair, W. J., 1.
Homalonotus.—Kegel, W.; Reed, F. R. C., 5; Williams, H. S., 2; Williams, M. Y., 11.
Homestead (Iowa).—Prior, G. T., 4.
Hominidæ, crania of.—Cameron, J.
——, phylogeny.—Thacker, A. G.
Homo.—Gregory, W. K., 5; Hrdlička, A., 1; Matsumoto, H., 2.
——, British Columbia.—Drysdale, C. W., 5.
——, Florida.—Chamberlin, R. T., 1 & 2; Hrdlička, A., 2; MacCurdy, G. G., 3; Sellards, E. H., 4, & 7–9.
——, Shippea, Cambridge.—Hughes, T. McK., 2.
——, S. Africa.—Fitzsimons, F. W.; Haughton, S. H., 4; Peringuey, L., 1 & 2; Smith, G. E.
——, S. America.—Sera, G. L.
——, Neolithic.—Baudouin, M., 3–5; Rutot, A., 1; Schlaginhaufen, O.
——, Palæolithic.—Moir, J. R., 8.
——, Pliocene.—Baudouin, M., 2; Taramelli, T., 3.
——, Quaternary.—Gregorio, A. de, 2; Hay, O. P., 4; Reeds, C. A., 2; Smith, S. A.; Vaughan, T. W., 10.
——, Tertiary.—Ameghino, C., 1 & 2.
——. *See also* Man, Piltdown skull, Talgai skull, & British Museum.
Homocline, the term.—Daly, R. A., 7.
Homœorhynchia.—Buckman, S. S., 4.
Homœospira.—Savage, T. E., 4; Williams, M. Y., 11.
Homolopsis.—Rathbun, M. J., 2.
Homopsomys.—Anthony, H. E., 3.
Homosteus.—Lowe, H. J., 5; Mansuy, H., 4.
Homotrypa & *Homotrypella*.—Cumings, E. R., 2.
Honduras.—Foye, W. G., 6; Powers, S., 12.
Honfleur (France).—Dollfus, G. F., 16.
Hong-Kong (China).—Weld, C. M., 3.
Honnali Taluk (Mysore).—Jayaram, B., 7.
Hood R. Basin (Oregon).—Marshall, R. B., 3.
Hooker Glacier (N.Z.).—Park, J., 4.
Hopeite.—Walker, T. L., 2.
Hopkinson, J., *Obit.*—*See* Anon., 42.
Hoplites.—Spitz, A., 1; Swinnerton, H. H., 4.
Hoplitosaurus.—Gilmore, C. W., 1.
Hoploparia.—Etheridge, R., *fil.*, 6.
Horistonotus.—Wickham, H. F., 1.
Hormotoma.—Parks, W. A., 2; Savage, T. E., 4; Williams, M. Y., 11.
Hornblende.—Flink, G., 1; Lincio, G., 3; *see also* Uralite.
——, action of alkaline solutions on.—Stephenson, E. A.
—— gabbro, zonal weathering of.—Brokaw, A. D., 3.
Hornblendite, Somaliland.—Manasse, E., 3.
Hornera.—Faura, M.
Horotiu (N.Z.).—Hetherington, J. R.
Horse, in Palæolithic art.—Hernandez-Pacheco, E., 5.
——, Pliocene.—Troxell, E. L., 4.
——. *See also Equus.*
Horseshoe Creek coal field (Idaho).—Woodruff, E. G., 1.
Horsley (Surrey).—Young, G. W., 1.
Hostinella.—Halle, T. G., 5.
Hotblack, J. T., *Obit.*—*See* Woodward, A. S., 8.
Hotton (Belgium).—Asselberghs, E., 3.
Hovey, H. C., *Obit.*—*See* Clarke, J. M., 1.
Howarth, J. H., *Obit.*—*See* Sheppard, T., 18.
Howe Sound (B.C.).—McConnell, R. G., 4.
Howell, H. H., *Obit.*—*See* Woodward, A. S., 8.
Hrafntinnuhryggur (Iceland).—Wright, F. E., 2.
Huacravilca (Peru).—Dueñas, E. I.
Huauchinango (Mexico).—Lozano, E. D., 2.
Huayacocotla (Mexico).—Lozano, E. D., 1.
Huaylas, Prov. (Peru).—León, J. M. Y.
Huddersfield (Yorkshire).—Woodhead, T. W.
Hudson Bay (Canada).—Moore, E. S., 5; Parks, W. A., 2; Savage, T. E., 6 & 8.
—— —— Basins, water-supply.—Horton, A. H., 1; Hoyt, W. G., 4; Lamb, W. A., 3.
Hudson R. Valley (New York).—Newland, D. H., 3.
Hudsonaster.—Schuchert, C., 2.
Huenella.—Chapman, F., 23; Mansuy, H., 3.
Huerfano Basin (Colorado).—Granger, W., 3.
Hughes, T. McK., *Obit.*—*See* Anon., 43; Harker, A., 6; Marr, J. E., 3; Sacco, F., 11; & Sheppard, T., 13.
Hulbury (Kent).—Priest, S., 3.

HULL, E., *Obit.*—*See* Anon., 44; Cole, G. A. J., 11; Geikie, Sir A., 2; Harker, A., 6; & Woodward, H., 7.
Humite.—Cesàro, G., 10.
Hummell Rocks (Haddingtonshire).—Day, T. C., 1.
Hunsruckian, Belgium.—Asselberghs, E., 1.
——, Luxembourg.—Maillieux, E., 5.
——, Rhine Valley.—Fuchs, A.
HUNT, A. R., *Obit.*—*See* Anon., 45; & Woodward, H., 2.
Hunter R. Valley (N.S.W.).—Suessmilch, C. A., 2.
Huntington Co. (Pennsylvania).—Butts, C., 4.
Hurlet Sequence, Scotland.—Ferguson, D., 2; Macnair, P., 4, 5 & 7.
Huron, Lake (N. America).—Collins, W. H., 3 & 5; Knight, C. W., 1; Taylor, F. B., 1.
Huronia.—Parks, W. A., 2; Williams, M. Y., 11.
Huronian, Canada.—Collins, W. H., 1.
——, Minnesota.—Grout, F. F., 9.
——, N. America.—Cayeux, L., 6.
Hurunui Valley (N.Z.).—Speight, R., 10.
Huskisson mining field (Tasmania).—Reid, A. M., 1.
Hustedia.—Girty, G. H., 1; Mansuy, H., 2; Weller, S., 1.
Hyœlobatis.—Woodward, A. S., 13.
Hyœna.—Fourtau, R., 5; Matsumoto, H., 1; Pavlow, M., 2; Pohlig, H.
Hyœnodon.—Depéret, C., 5.
Hyalostelia.—Etheridge, R., *fil.*, 4.
Hyalotekite.—Flink, G., 4.
Hyattidina.—Twenhofel, W. H., 1; Williams, M. Y., 11.
Hybodus.—Vidal, L. M.; Woodward, A. S., 13.
Hyderabad (S. India).—Hallowes, K. A. K.
Hydration, of cement.—Witt, J. C., 5.
Hydraulic Limestone, S. Notts.—Trueman, A. E., 1.
Hydreionocrinus.—Bather, F. A., 11; Girty, G. H., 1; Wright, J., *fil.*, 2.
Hydrobia.—Cossmann, M., 1; Roman, F., 2.
Hydrocyon.—Eastman, C. R., 1.
Hydrogen, in volcanic eruptions.—Sabatini, V., 9.
Hydrography, of the Karst.—Cvijic, J., 1.
Hydroidea, Palæozoic.—Chapman, F., 10 & 35.
Hydrology, Mexico.—Galvez, V., 2.
Hydromagnesite, B.C.—Young, G. A., 1.
Hydronephelite.—Doelter, C., 2.
Hydrospires, of Cystidea.—Hudson, G. H., 1.
Hydrotribulus.—Wade, B., 2.
Hydrozincite.—Ford, W. E., 8.
Hydrozoa, Cretaceous.—Hayasaka, I., 2.
Hyenia.—Kolderup, C. F., 6; Nathorst, A. G., 2.
Hyllus.—Wade, B., 3.
Hylobates.—Gregory, W. K., 5.
Hylotomites.—Meunier, F.
Hymenœa.—Berry, E. W., 19.
Hymenoptera, fossil.—Cockerell, T. D. A., 22.
Hyolithellus.—Walcott, C. D., 7.
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——, cause of.—Deeley, R. M., 5; Enquist, F., 1.
——, coral reefs &.—Daly, R. A., 6 & 16; Holmes, A., 8.
——, evolution of man in the.—Lyell, J.
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——, physiography of.—Thoroddsen, T.
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Ichthyolite Limestone, Italy.—Erasmo, G. d', 1.
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Idaho (U.S.A.).—Mansfield, G. R., 1, 3, 6 & 7.
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——, ore deposits.—Goodrich, R. R.; Hershey, O. H.; Jones, E. L., 4; Nichols, R.; Richards, R. W.; Shannon, E. V., 1, 4 & 5; Umpleby, J. B., 1 & 3.
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—— magmas, differentiation in.—Day, A. L., 1; Evans, J. W., 1; Powers, S., 14.
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—— ——, Alberta.—MacKenzie, J. D., 1 & 3.
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—— ——, Arizona.—Emery, W. B., 1.
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—— ——, Calvados.—Termier, P., 10.
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—— ——, Norway.—Rekstad, J., 6; Suleng, H.
—— ——, Ontario. — Brackenbury, C.
—— ——, Orange Free State.—Shand, S. J., 5.
—— ——, Pacific Islands.—Daly, R. A., 8; Iddings, J. P., 2 & 9.
—— ——, Pahang.—Willbourn, E. S., 1 & 2.
Igneous rocks, Penmaenmawr.—Sargent, H. C., 1 & 2.
—— ——, Pennsylvania.—Stose, G. W.
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—— ——, Sardinia.—Deprat, J., 1; Serra, A., 1–7.
—— ——, S. Australia.—Howchin, W., 5.
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—— ——, Sumatra.—Tobler, A., 1.
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—— ——, Victoria.—Junner, N. R., 1–3; Skeats, E. W., 4; Summers, H. S.
—— ——, Virginia.—Watson, T. L., 4 & 5.
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—— ——, Chile.—Gallo, H. V.
—— ——, China.—Wang, C. Y.
—— ——, Cornwall.—Davison, E. H.
—— ——, Cuba.—Kemp, J. F., 1 & 2; Leith, C. K., 7; Lindgren, W., 11; Roesler, M.; Singewald, J. T., *fil.*, 3.
—— ——, France.—Kerforne, F., 4; Nicou, P.
—— ——, Gt. Britain.—Cantrill, T. C., 7; Hatch, F. H., 2–6; Kendall, J. D., 1; Sibly, T. F., 2; Smith, Bernard, 5.
—— ——, Greece.—Ktenas, C. A.
—— ——, Hong-Kong.—Weld, C. M., 3.
—— ——, Hudson Bay.—Moore, E. S., 5.
—— ——, India.—Weld, C. M., 2.
—— ——, Iowa.—Howell, J. V.
—— ——, Lappland.—Carlheim-Gyllenskœld, V., 2; Daly, R. A., 3; Geijer, P., 12.
—— ——, Lorraine.—Rastall, R. H., 4.
—— ——, Louisiana.—Burchard, E. F., 2.
—— ——, Manchuria.—Wang, C. F., 1.
—— ——, Mexico.—Espinosa, L. C., 1; Paredes, T., 7.
—— ——, Midlands.—Barnes, W.
—— ——, Minnesota.—Appleby, W. R.; Broderick, T. M., 5; Harder, E. C., 3 & 5.
—— ——, Mysore.—Jayaram, B., 4; Venkataramaiya, B. N., 4.
—— ——, New Jersey.—*See* NEW JERSEY, 2.
—— ——, New York.—Miller, W. J., 6.
—— ——, New Zealand.—Jenkinson, S. H.; *see also* Iron-sand.
—— ——, Newfoundland.—Hayes, A. O., 2.
—— ——, N. America.—Cayeux, L., 6; Geijer, P., 1.
—— ——, Nova Scotia.—Hayes, A. O., 3; Spencer, L. J., 5; *see also* Iron-stone.
—— ——, Ontario.—Parsons, A. L., 1 & 5.
—— ——, Peru.—Dueñas, E. I.
—— ——, Philippine Is.—Pratt, W. E., 6, 10 & 11.

Iron ores, Queensland. — Saint-Smith, E. C., 7.
—— ——, Roumania. — Butureanu, V. C.
—— ——, S. Australia.—*See* South Australia, 6.
—— ——, S. Wales coal basin.—Tallis, J. F.
—— ——, Spain.—Adaro, L. de; Callen, A. S.; Grosch, P.; Kindelan, V.; Ranz, M.; Sampelayo, P. H., 2 & 3.
—— ——, Sweden.—Geijer, P., 1; Hœgbom, B., 2; Igelstrœm, L. J.; Lindroth, G. T., 1.
—— ——, Switzerland. — Stauffacher, J., 1.
—— ——, Tasmania.—Boyd, A. A.
—— ——, Texas.—Burchard, E. F., 1.
—— ——, United States.—Birkinbine, J.
—— ——, Victoria.—Dunn, E. J., 8, 9 & 15.
—— ——, Virginia.—Weld, C. M., 1.
—— ——, Western Australia.—*See* Western Australia, 12.
—— ——, Western Islands, Scotland.—Thorneycroft, W.
—— ——, Wisconsin.—Savage, T. E., 7.
—— ——, conservation of.—Leith, C. K., 3.
—— ——, electric smelting of.—Stansfield, A., 1 & 2.
—— ——, in lake sediments.—Naumann, E., 3.
—— ——, magnetic perturbations &.—Carlheim-Gyllenskœld, V., 3.
—— ——, non-phosphoric. — Fearnsides, W. G., 6.
—— ——, occurrence, &c.—Eckel, E. C.
—— ——, origin & formation of.—Dake, C. L., 1 & 2; Sosman, R. B., 7.
—— ——, production of.—Burchard, E. F., 3; Kemp, J. F., 3.
—— ——, titaniferous.—Foslie, S.; Stansfield, A., 3; Warren, C. H., 2.
Iron-sands, New Zealand.—Chambers, J. M.; Donovan, W.; *see also* New Zealand, 4.
Iron-stone, Nova Scotia.—Vickery, H. B.
——, Oxfordshire.—Walford, E. A., 1.
——, Jurassic.—Hatch, F. H., 3.
——, quarrying of.—Chorlton, A. E. L.
Irons, meteoric. — Benedicks, C.; Zimmer, G. F.
Ironside (Oregon).—Merriam, J. C., 10.
Irpinia (Italy).—Cassetti, M., 1.
Irrawaddy R. (Burma).—Samuelson, B. M.
Irving, J. D., *Obit.*—*See* Anon., 46; *&* Lindgren, W., 7.
Isaacson, E. D. E., *Obit.*—*See* Woodward, A. S., 2.
Ischnochiton.—Dall, W. H., 2.
Ischyrhiza.—Eastman, C. R., 2.
Ischyrosmilus.—Merriam, J. C., 14 & 15.
Isère, Dept. (France).—Hollande, D.; Lamothe, L. de, 2.
Iserine.—Billows, E.
Isis.—Chapman, F., 16; Nielsen, K. B., 4.
Islands, Mexican.—Lumbier, M. M., 5.
——, Pacific.—Daly, R. A., 6 & 8; Iddings, J. P., 2 & 9; Pilsbry, H. A., 1.
——, deficiency & excess of weight on.—Belot, E., 2.
——, reef-encircled.—Davis, W. M., 17.
——, volcanic.—Davis, W. M., 11.
Islay anticline.—Bailey, E. B., 1.
Ismid, Gulf (Asia Minor).—Arabu, N., 8.
Isoarca.—Cossmann, M., 5.
Isocampe.—Lull, R. S., 3.
Isocardia.—Fourtau, R., 4; Newton, R. B., 1 & 6; Waring, C. A.
Isochilina.—Chapman, F., 30.
Isoclines.—Souza-Brandão, V., 6.
Isocrinus.—Bather, F. A., 7; Clark, W. B., 3.
Isolepidina.—Douvillé, H., 8 & 24.
Isolobodon.—Allen, J. A.; Miller, G. S., 2.
Isomorphous mixtures, geometrical form of.—Ledoux, A., 4.
Isopoda, Jurassic.—Chilton, C., 1.
Isostasy, coral reefs &.—Molengraaff, G. A. F., 2.
——, geodetic evidence of.—Bowie, W., 2.
——, oscillations of glaciers &.—Gorceix, C., 2.
——, —— of sea-level &.—Wright, W. B., 3.
——, radioactivity &.—Becker, G. F., 1; Holmes, A., 6.
——, strength of Earth's crust &.—Barrell, J., 4.
——, theory of.—Anderson, E. M., 1; Andrews, E. C., 4; Barrell, J., 11 & 12; Davies, A. M., 5; Deeley, R. M., 4; MacMillan, W. D.
Isostatic compensation.—Bowie, W., 1; Hobbs, W. H., 2.
—— ——, of continents & islands.—Belot, E., 2.
—— ——, in India.—Burrard, Sir S. G., 4; Hayden, Sir H. H., 1.
—— reduction, of gravitational acceleration.—Niethammer, T.
—— subsidence, of volcanic islands.—Davis, W. M., 11.
Isotelus.—Savage, T. E., 4; Slocom, A. W.; Trowbridge, A. C., 3; Walcott, C. D., 9.
Isoverde (Liguria).—Franchi, S., 5.

Istiophorus.—Berry, E. W., 11.
Istria.—Taramelli, T., 6.
Isurus.—Merriam, J. C., 2 & 6.
Italy.—Campana, D. del, 2 & 4–6; Rovereto, G., 1–7.
——, Bibliography.—Tissi, E.
——, fossil fuels.—Sani, G.
——, geological map of.—Stefani, C. de, 6.
——, mountain geology of.—Preller, C. S. du R., 12.
——, physiography.—Preller, C. S. du R., 14; Zuffardi, P., 3.
—— (Central), ancient sea & lake basins of.—Preller, C. S. du R., 16.
—— (South), volcanoes.—Washington, H. S., 11.
——. *See also* Liguria, Piedmont, &c.
Ithaca (New York).—Rich, J. L., 7.
Ithaca I. (Greece).—Eginitis, D., 2 & 6.
Ithygrammodon.—Sinclair, W. J., 1.
Itieria.—Cossmann, M., 5.
Ittnerite.—Doelter C., 2.
Ivania.—Stefani, C. de, 4.
Ivigtut (Greenland).—Bernard, C. P.
Ivory Coast (W. Africa).—Azema, L., 3; Hubert, H., 2; Roux, F.

Jacala (Mexico).—Camacho, H.
Jacalitos Formation, California.—Nomland, J. O., 2 & 3.
Jackson (Mississippi).—Hopkins, O. B., 2.
Jagersfontein (S. Africa).—Wagner, P. A., 3.
Jakobsberg (Sweden).—Hedstrœm, H., 3; Zenzén, N., 3.
Jalisco State (Mexico).—Villafaña, A., 1.
Jaltepec (Mexico).—Galvez, V., 1.
Jambi (Sumatra).—Tobler, A., 2; *see also* DUTCH EAST INDIES, 5.
James Bay (Canada).—Savage, T. E., 8.
James R. (Alberta).—Rose, B., 2.
Jamesonite.—Van Horn, F. R., 1.
Jámioulx (Belgium).—Anthoine, R., 3.
Jammu, Prov. (Kashmir).—Middlemiss, C. S., 2 & 3.
Janassa.—Branson, E. B., 3.
Janeia.—Stefani, C. de, 4.
JANIN, L., *Obit.*—*See* Raymond, R. W., 1.
Janina (Epirus).—Niculescu, C., 1.
Janiopsis.—Cossmann, M., 1.
Jaou-Tepe (Crimea).—Lysakowski, C. de.
Japan.—Deprat, J., 2 & 5; Hayasaka, I., 1–3; Simotomai, H., 2; Weston, W.; Yabe, H., 1, 2, 5 & 6; Yehara, 1 & 2.
——, coal fields.—Nakamura, S.
——, earthquakes in.—Omori, F., 1–5; Szirtes, S., 1.
Japan, Geological Survey. — *See* JAPAN, 1–5.
——, Ice-age in.—Oseki, K., 1 & 2.
——, igneous rocks.—Iddings, J. P., 5.
——, minerals.—Ichikawa, S., 1–4.
——, petroleum in.—Clements, J. M.
——, prehistoric.—Munro, N. G.
Jarosite.—Lacroix, A., 13.
Jasmimum.—Reid, C., 6.
Jasper, Sicily.—Gregorio, A. de, 5.
Jatar (Spain).—Alvarado, A. de.
Java.—Cotter, G. de P., 2; Rutten, L., 2.
——, coalfields.—t'Hoen, C. W. A. P., 1.
——, Eocene mollusca.—Martin, K.
——, igneous rocks.—Iddings, J. P., 4; Lorié, J.
—— (Eastern).—Brouwer, H. A., 4.
Jaw, of Piltdown man.—Miller, G. S., 1.
Jayena (Spain).—Alvarado, A. de.
Jebel el Araba (Sinai).—Mrazec, L., 3.
—— Filfila (Algeria).—Rauw, H. de, 1 & 2.
—— Marra (Darfur).—Hobbs, H. F. C.
—— Outita (W. Morocco).—Lecointre, G., 4.
—— Tekzim (W. Morocco).—Russo, P., 3.
—— Tripolitano (Tripoli).—Negri, G., 1.
Jelibet, Range (W. Morocco).—Russo, P., 3.
Jemelle (Belgium).—Maillieux, E., 1.
Jemtland (Sweden).—Eriksson, K.; Frœdin, G., 2, 5 & 10; Hadding, A., 1; Halle, T. G., 2 & 4; Tamm, O., 4.
Jenolan Caves dist. (N.S.W.).—Suessmilch, C. A., 3.
Jersey (Channel Is.).—Dunlop, A.; Mauger, —.
—— ——, Palæolithic site in.—Fallaize, E. N.; Gruchy, F. B. de; Warton, R. G.
Jerusalem (Palestine).—Repelin, J., 5.
Jesi (Italy).—Fossa-Mancini, E., 3.
Ježekite.—Doelter, C., 1; Slavik, F.
Jibbenbar (Queensland).—Jensen, H. I., 6.
Jo Daviess Co. (Illinois).—Schockel, B. H.
Joban coal field (Japan).—Nakamura, S.
Joensuu dist. (Finland).—Frosterus, B., 2.
John Day R. Basin (Oregon).—Marshall, R. B., 10.
JOHNS, G., *Obit.*—*See* Anon., 47.
JOHNSON, J. P., *Obit.*—*See* Anon., 48.
Johnson Co. (Iowa).—Leighton, M. M.
JOHNSTRUP, J. F., *Biogr.*—*See* Rœrdam, K.

Jointing, degradation of the lithosphere &.—Ehrenfeld, F.
——, rock.—Ahlmann, H. W., 1; Sander, B.; Stevens, B.; Suleng, H.
Jones, W. Rupert, *Obit.*—*See* Anon., 49; & Woodward, A. S., 8.
Jongmansia.—Reid, C., 6.
Jönköping (Sweden).—Sandegren, R., 2.
Joplin dist. (Missouri).—Bain, H. F., 3; Siebenthal, C. E., 2; Waring, W. G.; Young, H. I.
Jorat, Col du (Switzerland).—Loys, F. de, 3.
Jordan, J. B., *Obit.*—*See* Anon., 50.
Jordan R. Valley (Palestine).—Masterman, E. W. G.
Joseïte.—Mingaye, J. C. H., 1.
Jouannetia.—Cossmann, M., 8.
Jouhanneaud, C., *Obit.*—*See* Lacroix, A., 25.
Jovellania.—Reed, F. R. C., 3.
Joyden's Wood (Kent).—Leach, A. L., 7.
Juan de Nova I. (Madagascar).—Lacroix, A., 62; Orcel, J., 1.
Jubaland (E. Africa).—Parkinson, J.
Judd, J. W., *Obit.*—*See* Anon., 51; Bonney, T. G., 7; Cole, G. A. J., 13; Cullis, C. G., 3; & Harker, A., 4.
Judith R. Formation, Montana.—Bowen, C. F., 1 & 4; Sternberg, C. H.; *see also* Smithsonian Institution, 2.
Juglandaceæ.—Berry, E. W., 1; Nagel, K.
Juglans.—Knowlton, F. H., 4.
Jugo-slavia.—Cvijic, J., 2.
Julfa (Transcaucasia).—Bonnet, P., 1.
Jukes-Browne, A. J., *Obit.*—*See* Newton, R. B., 3; & Woodward, A. S., 2.
Jukkasjärvi (Lappland).—Geijer, P., 8.
Julia.—Cossmann, M., 7.
Juliania.—Onetti, A.
Julin, A. von, *Obit.*—*See* Borgstrœm, L. H., 4.
Jumbunna Plains (Victoria).—Kitson, A. E., 2.
Jura, Celto-Swabian.—Rollier, L., 2–8.
——, French.—Azema, L., 1; Bourgeat, l'Abbé, 1–8; Collot, L.; Jourdy, E., 1; Kluepfel, W., 1 & 2; Lemoine, E.; Ronchadzé, J.
——, Swiss.—Amsler, A.; Buxtorf, A., 1, 2 & 4; Heim, Alb., 2, 6, 7 & 9; Hummel, K. L.; Jeannet, A., 1 & 2; Oppliger, F.; Schuh, F.; Struebin, K., 1–3; Suter, R.; Vosseler, P.
——, ——, lakes in.—Preller, C. S. du R., 2.
——, White.—Loesch, K. C. von.
Jurassic, Alaska.—Knowlton, F. H., 5.
——, Alberta.—McLearn, F. H., 4.
——, America & E. Africa.—Schuchert, C., 16.
——, Bavaria.—Woodward, A. S., 29.
——, British Columbia.—Clapp, C. H., 6.
——, Burgos.—Gutiérrez, P. M.
——, Burma.—Buckman, S. S., 1 & 4.
——, California.—Moody, C. L., 2,
——, Dorsetshire.—Lang, W. D., 6.
——, Dutch East Indies.—Springer, F., 2.
——, East African Protectorate.—Maufe, H. B., 2.
——, France.—Joly, H.; Leriche, M., 6.
——, French Jura.—Bourgeat, l'Abbe, 1 & 4.
——, Germany.—Schneid, T.
——, Gt. Britain.—Ellis, D., 1 & 3.
——, Himalaya.—Steiger, P.
——, Kent.—Lamplugh, G. W., 3.
——, Laos States.—Mansuy, H., 1.
——, Lincolnshire.—Ellis, D., 3.
——, Lorraine.—Kluepfel, W., 1 & 2.
——, New South Wales.—Chilton, C., 1; Walkom, A. B., 7.
——, Normandy.—Nicolesco, C., 1 & 2.
——, N. America.—Osborn, H. F., 2.
——, Oxfordshire.—Odling, M., 1–3.
——, Portugal.—Gomes, J. P.; Lambert, J., 2.
——, Queensland.—Walkom, A. B., 1–3.
——, Russia.—Krenkel, E.
——, Scotland.—Boswell, P. G. H., 8.
——, Spain.—Sampelayo, H.; Vidal, L. M.
——, Sutherland.—Macgregor, M.
——, Switzerland.—Heim, Arn., 2; Oppliger, F.; Rollier, L., 9; Struebin, K., 2 & 3.
——, United States.—Mook, C. C., 3 & 4.
——, West of England.—Richardson, L., 4, 6, 9 & 10.
——, Woevre.—Steinmann, G., 5.
——, Yorkshire. — Fox-Strangways, C.; Thomas, H. Hanshaw, 2 & 3.
—— chronology.—Buckman, S. S., 3.
—— coals.—Stevenson, J. J., 4.
—— corals, arrested development of.—Jourdy, E., 9.
—— iron-stones.—Hatch, F. H., 3.
Jutland (Denmark).—Kolderup, N. H.; Milthers, V., 1.
'Jutulhug' (Norway).—Reusch, H., 10.

Kadur Taluk (Mysore).—Jayaram, B., 2.
Kaf Batús (Libya).—Artini, E., 1.
Käfling dist. (Sweden).—Hadding, A., 4.
Kainoisite.—Doelter, C., 2.

Kainozoic.—*See* Tertiary.
Kaipara (N.Z.).—Marshall, P., 7 & 13.
Kajlidongri (Cent. India).—Fermor, L. L., 6.
Kakanui (N.Z.).—Uttley, G. H., 1.
Kalaa-Dijerda (Tunisia).—Stefano, G. de, 4.
Kalahari Desert (S. Africa).—Du Toit, A. L., 4.
Kaldurga (Mysore).—Sampat Iyengar, P., 2.
Kaldvellas Valley (Norway).—Reusch, H., 14.
Kalevian, Finland.—Wilkman, W. W., 2.
——, age of the.—Sederholm, J. J., 2.
Kalgoorlie (Western Australia).—Cloutman, W. R.; Farquharson, R. A., 3; Feldtmann, F. R., 3; Honman, C. S., 1 & 5.
Kaliophilite.—Doelter, C., 2.
Kallirhynchia.—Buckman, S. S., 4.
Kalobatippus.—Osborn, H. F., 10.
Kalymma.—Scott, D. H., 9.
Kames of Carstairs (Scotland).—Gregory, J. W., 11 & 16.
Kamloops dist. (B.C.).—Brewer, W. M., 5; Daly, R. A., 4.
Kamsagar (Mysore).—Brown, J. C., 3.
Kananaskis (Alberta).—Allan, J. A., 3.
Kanawar *or* Kanaur, Dist. (India).—Diener, C.
Kanbauk mine (Burma).—Griffiths, H. D., 3.
Kandertal (Switzerland).—Adrian, H.
Kangnasaurus.—Haughton, S. H., 2.
'Kankar,' Mysore.—Balaji Rao, B., 4; Venkataramaiya, B. N., 3.
Kannemeyeria.—Haughton, S. H., 1.
Kanowna (Western Australia).—Jutson, J. T., 4; Simpson, E. S., 5.
Kansan Drift, Iowa.—Kay, G. F., 4.
Kansas (U.S.A.).—Berger, W. R., 1; Hay, O. P., 6 & 8; Twenhofel, W. H., 4–7; Williston, S. W., 9; Wooster, L. C., 1 & 2.
——, granite in.—Powers, S., 8; Wright, P.
——, oil & gas in.—Allen, H. C.; Gardner, J. H., 3.
——, ore deposits.—Siebenthal, C. E., 2; Whitaker, W. A.
——, peneplains.—Beede, J. W., 2.
——, water-supply.—Cook, W. A.; Meinzer, O. E., 1.
Kaolin.—Doelter, C., 2.
——, Appalachian States, U.S.A.—Watkins, J. H.
——, Devon & Cornwall.—Collins, H. F., 3.
——, Fed. Malay States.—Scrivenor, J. B., 4.
——, Mysore.—Balaji Rao, B., 5; Sampat Iyengar, P., 3; Venkataramaiya, B. N., 2.
——, Ontario.—Keele, J., 4.
——, Queensland.—Ball, L. C., 18.
Kaolin, S. Australia.—*See* South Australia, 9.
——, Sweden.—Grœnwall, K. A., 2.
——, association of, with clay.—Segrè, C., 2.
——, origin of.—Lindgren, W., 2; Stremme, H., 2.
Kaolinite, intumescent.—Schaller, W. T., 6.
Kapanga mine (Western Australia).—Feldtmann, F. R., 1.
Kara-Dagh (Crimea).—Chirvinski, P. N., 3.
Karakoram, Range (Kashmir).—Filippi, F. de, 1–3; Parona, C. F., 9; Roccati, A., 2; Stefanini, G., 2 & 3.
Karlia.—Walcott, C. D., 3.
Karpathos *or* Scarpanto I. (Ægean).—Martelli, A.
Karpinskya.—Gortani, M., 3.
Karroo beds, Congo Basin.—Delhaye, F., 2.
—— ——, East African Protectorate.—Maufe, H. B., 2.
—— ——, Transvaal.—Wagner, P. A., 2.
—— System, S. Africa.—Du Toit, A. L., 1, 4 & 8; Rogers, A. W., 9.
—— ——, S. Rhodesia.—Macgregor, A. M., 3; Maufe, H. B., 1.
Karst, hydrography.—Cvijic, J., 1; *see also* Limestone regions.
Karwinskia.—Reid, C., 6.
Karyocerite.—Doelter, C., 2.
Karynite.—Doelter, C., 1.
Kasaan Peninsula (Alaska).—Wright, C. W.
Kasai (Belgian Congo).—Ledoux, A., 2.
Kashmir.—Diener, C.
Katanga (Belgian Congo).—Bain, H. F., 5; Delhaye, F., 1; Mathieu, F. F.; Robert, M.; Schwetz, —.
Katapleite.—Flink, G., 4.
Katmai volcano (Alaska).—Griggs, R. F.
Katoptrite.—Flink, G., 5.
Kattegat (Sweden).—Andersson, G.
Katzenelnbogen (Germany).—Kegel, W.
Kaw Valley (Kansas).—Warfel, E. C.
Kawah-Idjen (Java).—Van Gelder, J. K.
Kebneksaise Mt. (Lappland).—Quensel, P., 2–4.
Keeneia.—Dun, W. S., 1.
Kegworth (Leicestershire).—Maidwell, F. T., 3.
Kelestominæ, Cretaceous.—Lang, W. D., 8.
Kelham (Notts.).—Strahan, Sir A., 6.
Kellaways fauna, Russia.—Krenkel, E.
Kellya.—Cossmann, M., 1 & 8.
Kelowna (B.C.).—Camsell, C., 1.
Kemmangundi area (Mysore).—Venkataramaiya, B. N., 4.

Kenai Peninsula (Alaska).—Martin, G. C., 2.
Kennedy, H. T., *Obit.*—*See* Cole, G. A. J., 9; & Harker, A., 6.
Kent.—Baker, H. A., 2 & 3; Chandler, R. H., 1–5; Crick, G. C., 5; Dibley, G. E., 1; Kitchin, F. L.
——, coal field.—Arber, E. A. N., 3; Bolton, H., 1.
——, surface changes in.—Dewey, H., 2.
—— (East).—Lamplugh, G. W., 3.
Kent's Cavern (Torquay).—Julian, Mrs. H. F., 3; Lowe, H. J., 1 & 3.
Kentallenite, Japan.—Kôzu, S., 1.
Kentucky (U.S.A.).—Miller, A. M., 1 & 3; Scott, D. H., 9.
——, coalfields.—Butts, C., 1 & 2.
——, oil & gas in.—Fohs, F. J.
——, river changes in.—Jillson, W. R., 3.
Keokuk beds, Mississippi.—Van Tuyl, F. M., 1.
Keplerites.—Swinnerton, H. H., 4.
Keratophyre, N.S. Wales.—Benson, W. N., 2.
Kerguelen I. (Antarctic).—Lacroix, A., 16 & 27.
Kerogen Shales.—Craig, E. H. C., 1.
Kerr, R., *Obit.*—*See* Woodward, A. S., 8.
Kerrite.—Aloisi, P.
Kersantite, Belgium.—Anten, J., 4.
——, Tyrol.—Tanton, T. L., 1.
Keston Common (Kent).—Leach, A. L., 10.
Kettle R. (B.C.).—Larson, A. G.
Keuper, Cheshire.—Maidwell, F. T., 1; Rhodes, J. E. W., 1.
——, England.—Sherlock, R. L., 6.
——, Nottinghamshire.—Swinnerton, H. H., 2.
Keweenaw fault.—Lane, A. C., 3.
Khairpur (India).—Prior, G. T., 1.
Khargpore Hills (India).—Schulten, C.
Khmeria.—Mansuy, H., 2.
Kii, Prov. (Japan).—Yabe, H., 2.
Kiirunavaara (Lappland).—Carlheim-Gyllenskœld, V., 2; Daly, R. A., 3; Geijer, P., 7 & 14; Koechlin, R., 2; Sundius, N., 4.
Kilauea, volcano (Hawaii).—Jaggar, T. A., *fil.*, 4; Powers, S., 4 & 5; Sayles, R. W., 3; Shepherd, E. S.
Killarney (Ontario).—Collins, W. H., 4.
Killdeer Mts. (N. Dakota).—Quirke, T. T., 3.
Kilnsea (Yorkshire).—Lamplugh, G. W., 4.
Kilpatrick Hills (Dumbarton).—Tyrrell, G. W., 3.
Kilsyth Hills (Stirling).—Ferguson, D., 2; Harrison, J. V., 2.
Kiltorcan (Co. Kilkenny).—Johnson, T.; Matthew, G. F., 3.
Kiltorkensia.—Johnson, T.
Kilubi R. (Katanga).—Schwetz, —.
Kimberley (S. Africa).—Schwarz, E. H. L., 3; Sutton, J. R.
Kimberlite, Brazil.—Rimann, E., 1.
Kimmeridge (Dorset).—Anon., 108; Manfield, W. H.; Strahan, Sir A., 16.
Kimmeridgian, Bavaria.—Crick, G. C., 2.
——, France.—Boulenger, G. A., 7.
——, Russia.—Rosanow, A.
Kinbane (Co. Antrim).—Ashcroft, F. N.
Kincardineshire.—Bremner, A., 5; Campbell, R., 1.
Kinderhookian, U.S.A.—Ulrich, E. O., 1.
King I. (Tasmania).—Waterhouse, L. L., 2.
King's Co. (Nova Scotia).—Hayes, A. O., 3.
King's Sound mine (Western Australia).—Blatchford, T., 1.
Kingena.—Douvillé, H., 22; Waring, C. A.
Kingsclere, Vale of.—Hawkins, H. L., 12.
Kingston Hill (Surrey).—Grist, C. J., 2.
Kingston-upon-Hull (Yorkshire).—Sheppard, T., 2.
Kingussie (Inverness).—Hinxman, L. W., 1.
Kinkell Ness (Fifeshire).—Balsillie, D., 2.
Kinneyia.—Walcott, C. D., 2.
Kinross (Scotland).—Rhodes, J. E. W., 3.
Kinta dist. (Perak).—Jones, W. R., 2.
Kirchoff, C. W. H., *Obit.*—*See* Raymond, R. W., 3.
Kirkland, Lake (Ontario).—Burrows, A. G., 5; Johnson, H. H.
Kirkman Creek (Yukon Terr.).—Cairnes, D. D., 7 & 10.
Kitsap Co. (Washington).—Weaver, C. E., 3.
Kittitas Co. (Washington).—Saunders, E. J.
Klamath Lakes dist. (Oregon).—Johnson, D. W., 3.
—— Mts. (California).—Ferguson, H. G., 2.
Kleidonella.—Canu, F., 11.
Klemmingen, Lake (Sweden).—Anrick, C. J., 2.
Klien, W., *Obit.*—*See* Tœrnquist, A.
Klintebys (Gotland).—Munthe, H., 3.
Klintehamn (Gotland).—Hede, J. E., 2.
'Klippen,' Languedoc.—Termier, P., 14; Thiéry, P., 2 & 3.
Kloedenia.—Kegel, W.
Klondike gold fields (Canada).—Cadell, H. M., 3; Tyrrell, J. B., 10.
Klotassin dist. (Yukon Terr.).—Cairnes, D. D., 8.
Knebelite.—Flink, G., 4.

KNIPE, H. R., *Obit.*—*See* Anon., 52.
Knopite.—Zambonini, F., 5.
Knorria.—Arber, E. A. N., 8.
Knowsley East (Victoria).—Chapman, F., 22.
Kobellite.—Flink, G., 1.
Kobya.—Gregory, J. W., 39.
KOCH, W. E., *Obit.*—*See* Harker, A., 4.
Kochia.—Kegel, W.
Kodaikanal (S. India).—Meunier, S., 5.
Koechlinite.—Schaller, W. T., 3.
KOENEN, A. von, *Obit.*—*See* Anon., 53.
Kofa Mts. (Arizona).—Jones, E. L., 2.
Kohat Dist. (India).—Stuart, M., 2 & 3.
Kokemäenjoki *or* Kumo R. (Finland).—Riihiaho, E.
Köliberg Series, Scandinavia.—Backlund, H., 6; Quensel, P., 5 & 6.
Komati R. Valley (Transvaal).—Hall, A. L., 2.
Kongsberg (Norway).—Bugge, C.
Konichalcite.—Doelter, C., 1.
Koninckella.—Caterini, F., 2.
Koninckina.—Caterini, F., 2; Mansuy, H., 1.
Koninckinidæ, Liassic.—Caterini, F., 2.
Koninckite.—Doelter, C., 1.
Koninckophyllum.—Smyth, L. B.
Kootenay R. dist. (B.C.).—Drysdale, C. W., 4 & 7; Schofield, S. J., 1 & 4.
Kootenia.—Walcott, C. D., 9.
Koppa Taluk (Mysore).—Balaji Rao, B., 5; Sampat Iyengar, P., 3.
Korea (E. Asia).—Higgins, D. F.
Korea State (India).—Fermor, L. L., 1.
Kornerupine.—Doelter, C., 2.
Kosaka (Japan).—Kato, T., 5.
Kossmaticeras.—Marshall, P., 7; Trechmann, C. T., 5; Yabe, H., 2.
Kotli (Jammu).—Middlemiss, C. S., 3.
Köttigite.—Doelter, C., 1.
Kousnetzk (Siberia).—Nikitinsky, A. J.
Kowkash gold area (Ontario).—Hopkins, P. E., 2.
Krakatoa, volcano (E. Indies).—Jongh, A. C. de.
Krithe.—Chapman, F., 3 & 16.
Kroe (Sumatra).—Zwierzycki, J., 1.
Kuckers Stage, Esthonia.—Bekker, H.
Kuitpo (S. Australia).—Teale, E. O.
Kundelungu System, Belgian Congo.—Robert, M.
Kunigal (Mysore).—Jayaram, B., 4.
Kupferschiefer, Germany.—Schuchert, C., 3.
Kupferuranite.—Doelter, C., 1.
Kurnalpi (Western Australia).—Jutson, J. T., 1.
'Kuromono' ore, Japan.—Kato, T., 5.
Kutchithyris.—Buckman, S. S., 4.
Kuttippuram (S. India).—Brown, J. C., 3.
Kwang-si, Prov. (China).—Deprat, J., 6.
Kyanite.—Flink, G., 4; Doelter, C., 2.
Kyffhäuser, Mt. (Saxony).—Walter, E.
KYNASTON, H., *Obit.*—*See* Anon., 54; Rogers, A. W., 5; Woodward, A. S., 8; & Young, R. B., 1.
Kynuna (Queensland).—Gregory, J. W., 1.
Kyshtim (Russia).—Stickney, A. W., 1 & 2.
Kyson (Suffolk).—Moir, J. R., 12.
Kyuquot Sound (B.C.).—Clapp, C. H., 4 & 6.

La Cienega (Mexico).—Galvez, V., 5.
La Ferté-Milon (Aisne).—Charpiat, R., 9.
La Fibbia (Switzerland).—Lewis, W. J.
La Labor (Mexico).—Galvez, V., 4.
La Madeleine (Dordogne).—Harlé, E., 1.
La Maurienne (S. France).—Boussac, J., 1.
La Mivoie (Cher).—Combes, P.
La Naulette (Belgium).—Baudouin, M., 2.
La Prugne (Allier).—Tronquoy, R.
La Rioja, Prov. (Argentina).—Keidel, H.
La Ronda (Spain).—Duparc, L., 2; Gillman, F.
La Salle Quadrangle (Illinois).—Cady, G. H., 2.
La Serre (Fr. Jura).—Azema, L., 1; Bourgeat, l'Abbé, 2, 5 & 7.
La Tour Salière (Switzerland).—Collet, L. W., 8; Loys, F. de, 3.
La Trinité I. (W. Indies).—Douvillé, H., 5 & 24.
Laacher See (Germany).—Ledoux, A., 7 & 8.
Labechia.—Johnston, M. S., 1.
Labelle Co. (Quebec).—Wilson, M. E., 5.
Labidosaurus.—Williston, S. W., 6.
Laboratory, Canada Mines Branch.—*See* CANADA, 12.
——, Geophysical, Washington.—Sosman, R. B., 4.
Labrador.—Coleman, A. P., 10.
Labradorite.—Grosspietsch, O.; Andersen, O., 1; Guébhard, A., 17.
Labrodon.—Priem, F., 4; Sacco, F., 1.
Labyrinthodon.—Wills, L. J.
Labyrinthodontia, Triassic.—Sinclair, W. J., 3.
——, coprolites of.—Woodward, A. S., 22.
Lacazina.—Newton, R. B., 10.
Laccocephalus.—Watson, D. M. S., 10.
Laccolite, Auvergne.—Garde, G., 2.

Laccolithic intrusion, mechanics of.—Keyes, C. R., 11.
Laccopteris.—Mœller, H.
Lacertidæ, affinities & distribution.—Boulenger, G. A., 4.
Lacertilia, Eocene.—Boulenger, G. A., 5.
Lacon.—Wickham, H. F., 1.
Lacroixite.—Doelter, C., 1; Slavik, F.
Lacuna.—Anderson, F. M.; Cerulli-Irelli, S., 1; Cossmann, M., 1; Dall, W. H., 2.
Lacustrine deposits, Casentino.—Migliorini, C. I.
—— ——, France.—Dollfus, G. F., 6; Salmon, J.
—— ——, Macedonia.—Faucher, D., 1 & 2.
—— ——, Nevada.—Merriam, J. C., 3.
—— ——, Ontario.—Johnston, W. A., 1.
—— ——, Savoy.—Moret, L.
—— ——, Sweden.—Sandegren, R., 2.
—— ——, Switzerland.—Monnier, A.
—— ——, Umbria.—Ossat, G. de A. d', 2.
Ladoga, Lake (Finland).—Berghell, H., 1.
Ladogian, age of the.—Sederholm, J. J., 2 & 5.
Lœocochlis.—Harmer, F. W., 2.
Lafayette dist. (Minas Geraes).—Singewald, J. T., *fil.*, 4.
Laganum.—Clark, W. B., 3.
Lagena.—Chapman, F., 18; Cushman, J. A., 1; Smith, J., 1.
Lagenospermum.—Kidston, R., 1.
Lagomorphæ, Tertiary.—Dice, L. R.
Lagomys.—Harlé, E., 1.
Lagothrix.—Gregory, W. K., 5.
Lagunculapes.—Lull, R. S., 3.
Lahontan, Lake (N. America).—Gale, H. S., 2; Jones, J. C.; Merriam, J. C., 13.
Laime R. (Jura).—Bourgeat, l'Abbé, 6.
Lake-barrier, bursting of a, Argentina.—Hobson, B., 2.
Lake-basins, Italy.—Preller, C. S. du R., 3 & 16.
—— ——, sub-Alpine.—Preller, C. S. du R., 1.
—— beds, Pleistocene, Burma.—Annandale, N., 1.
—— deposits.—*See* Lacustrine deposits.
—— District, English.—Green, J. F. N., 1, 2, 4, 6, 9 & 10; Holmes, A., 13; Marr, J. E., 1 & 2; Morrison, J.; Rastall, R. H., 9; Scrivenor, J. B., 3; Smith, Bernard, 5.
—— ore, manganiferous.—Vogt, J. H. L., 3.
—— sediments, iron ore in.—Naumann, E., 3.
Lake sediments, sampling of.—Naumann, E., 1 & 2.
—— villages, Glastonbury.—Dawkins, Sir W. B., 2.
Lakes, Africa.—Edwardes, H. S. W.
——, Auvergne.—Glangeaud, P., 7.
——, Cent. America.—Juday, C.
——, Denmark.—Wesenberg-Lund, C.
——, Finland.—Perkiœnoja, Y. J.
——, Java.—Wolverkamp, H.
——, Jordan Valley.—Masterman, E. W. G.
——, N. America.—Leverett, F., 4.
——, Ontario.—Johnston, W. A., 3.
——, Philippine Is.—Pratt, W. E., 9.
——, Sweden.—Anrick, C. J., 2; Frœdin, J., 2; Geer, S. de, 2; Muehlen, L. von zur; Sahlstrœm, K. E., 3; Teiling, E., 1 & 2.
——, Switzerland.—Lautensach, H.; Preller, C. S. du R., 1 & 2.
——, ——, underground drainage of.—Collet, L. W., 3, 4, 6 & 7.
——, Western Australia.—Gregory, J. W., 21 & 24.
——, amber from.—Reutter, L., 1 & 2.
——, dry, Western Australia.—Jutson, J. T., 7–9.
——, extinct, Illinois.—Shaw, E. W., 4.
——, temperatures of.—Birge, E. A., 1 & 2.
——. *See also* Crater & Glacier Lakes.
Lalsot Hills, Rajputana (India).—Heron, A. M., 4.
Lambertiella.—Checcia-Rispoli, G., 11.
Lamellaria.—Cerulli-Irelli, S., 1.
Lamellariidæ, Pliocene.—Cerulli-Irelli, S., 1.
Lamellibranchia, Carboniferous.—Pruvost, P., 2.
——, Cretaceous.—Allen, H. A., 1; Fourtau, R., 4; Greco, B., 4.
——, Eocene.—Martin, K.
——, Jurassic.—Odling, M., 2.
——, Tertiary.—Cossmann, M., 7 & 8.
——, development of ligament in.—Douvillé, H., 13.
——, hinges of.—Odhner, N. H., 2.
——, shell fragments of, described as Cirripeds.—Withers, T. H., 3.
Lamna.—Hussakof, L., 6; Priem, F., 6; Stefano, G. de, 4; Waring, C. A.
Lamothe, R. de, *Obit.*—*See* Cossmann, M., 3.
Lamplugh, G. W., *Biogr.*—*See* Woodward, H., 5.
Lampong dist. (Sumatra).—Hartmann, E.; Van Es, L. J. C., *fil.*, 2.
Lampropholis.—Cockerell, T. D. A., 16.
Lamprophyre, Devonshire.—Smith, H. G., 1.

Lamprophyre, Sweden.—Hedstrœm, H., 3.
——. *See also* Camptonite, Kersantite, Mica Trap.
Lamprostibiane.—Doelter, C., 1.
Lanarkshire.—Carruthers, R. G., 2 & 3; Macnair, P., 5; *see also* Glasgow District.
Lancashire.—Jackson, J. W., 8; Jones, T. A., 2; Nuttall, T. E.
——, building-stone.—Parker, R. R.
——, Carboniferous.—Bolton, E.; Garwood, E. J., 1; Hickling, G., 6; Sherlock, R. L., 1; Wilmore, A., 1.
——, hæmatite in.—Smith, Bernard, 5.
Lance Formation, N. & S. Dakota.—Lloyd, E. R., 2.
—— ——, Wyoming.—Gilmore, C. W., 5 & 6; Lull, R. S., 2.
Lancefieldian, Victoria.—Chapman, F., 28.
Land & Sea, distribution of.—Brooks, C. E. P., 1; Dufour, P. T.; Holtedahl, O., 8.
Land-connections, former, Central America.—Trelease, W.
——, Tertiary.—Joleaud, L., 4–6.
—— forms, Carnarvonshire.—Dewey, H., 6.
——, Sweden.—Geer, S. de, 1.
——, in desert regions.—Keyes, C. R., 10.
——, interpretation of.—Gregory, H. E., 8.
——, landscapes &.—Falconer, J. D.
——, study of.—Mackie, G. B.
—— shells, Denmark.—Johansen, A. C.
—— snails, Pacific.—Pilsbry, H. A., 1.
—— surfaces, geological.—Coleman, A. P., 7.
Landenian, Belgium.—Cornet, J., 1.
——, France.—Commont, V., 4.
Landeryd (Sweden).—Munthe, H., 5.
'Landes,' Gascony.—Blayac, J., 2; Dollfus, G. F., 14; Harlé, E., 4 & 5.
Landscape, German, development of.—Salomon, W., 3.
——, in history.—Geikie, Sir A., 1.
Landscapes, land-forms &.—Falconer, J. D.
Landslides, Denmark.—Madsen, V., 3.
——, Folkestone.—Osman, C. W.
——, Girvan.—Harrison, J. V., 1.
——, Glencroe.—Clough, C. T., 1.
——, Lake Bascom.—Taylor, F. B., 2.
——, Panama.—Becker, G. F., 3; *see also* NATIONAL ACADEMY OF SCIENCES, WASHINGTON.
——, Quebec.—Wilson, M. E., 11.
——, Sweden.—Post, L. von, 5; Westerberg, N.
——, Switzerland.—Girardin, P., 7.
——, Wyoming.—Branson, E. B., 4.
——, in unconsolidated sediments.—Newland, D. H., 3.
Lang-son (Tonkin).—Giraud, J.
Långban mine (Sweden).—Aminoff, G., 3, 7 & 8; Flink, G., 3, 5, 6 & 7.
Långbanite.—Doelter, C., 1.
Langhe (Italy).—Sacco, F., 3.
Languedoc (France.)—Jadin, F., 3; Termier, P., 14; Thiéry, P., 2 & 3.
Laoporus.—Lull, R. S., 8.
Laornis.—Shufeldt, R. W., 2.
Laos States (Indo-China).—Mansuy, H., 1.
Lapeirousia.—Douvillé, H., 9.
'Lapiesation,' Portugal.—Fleury, E., 4–6.
Lappland.—Gavelin, A., 1 & 2; Geijer, P., 5–14; Wiman, C., 11.
——, Ice-age in.—Tanner, V.
——, iron ores.—Carlheim-Gyllenskœld, V., 2.
Laramie Mts. (Wyoming).—Spencer, A. C.
Lardeau Mining Divn. (B.C.).—Emmens, N. W., 1–3.
Larder Lake gold area (Ontario).—Hopkins, P. E., 6.
Larix.—Reid, C., 6.
Larus.—Shufeldt, R. W., 2.
Lasalle Co. (Texas).—Deussen, A., 2.
Lassen Peak (California).—Diller, J. S., 2.
Laterite, French Guinea.—Fermor, L. L., 3.
——, Guiana.—Fermor, L. L., 4.
——, Travancore.—*See* TRAVANCORE, 1 & 2.
——, Western Australia.—Woolnough, W. G.
——, auriferous.—Bernet, E.
——, metalliferous.—Davis, W. M., 20.
——, origin of.—Burton, R. C.; Campbell, J. M., 2; Stremme, H., 3.
——, the term.—Scrivenor, J. B., 1.
Lateritic iron ores, origin of.—Leith, C. K., 7.
—— ore deposits.—Miller, W. G., 2.
Lateritization, in Brazil.—Goodchild, J. H.
Lates.—Fourtau, R., 5.
LATHAM, B., *Obit.*—*See* Campbell-Bayard, F.; Harker, A., 6; *&* Whitaker, W., 3.
Lathyrus.—Martin, K.
Latian volcanoes, Italy.—Lacroix, A., 54.
Latirus.—Dall, W. H., 2; Marshall, P., 8.
Latitude, influence of, on temperature.—Brooks, C. E. P., 2.
——, variations of.—Bianchi, E., 1 & 2; Cerulli, V.; Schlesinger, F.
——, of stations above mean sea level.—Neill, W. T.
LATTEUX, —, *Obit.*—*See* Meunier, S., 11.
Lau Is. (Fiji).—Foye, W. G., 4.
Laubieria.—Cossmann, M., 1.

Laugerie-Basse (Dordogne).—Mortillet, A. de.
Laugnac (S. France).—Repelin, J., 8.
Launton (Oxon.).—Prior, G. T., 1.
Laurinkari I. (Finland).—Borgstrœm, L. H., 2.
Laurium (Greece).—Lacroix, A., 10.
Laurus.—Braun-Blanquet, J.; Colani, M.; Sangiorgi, D., 2; Smith, W. S., 2.
Lausitzer Mts. (Germany).—Staff, H. von.
Lauterbrunnental (Switzerland).—Gerber, E., 1; Hugi, E.
'Lava residuals,' Victoria.—Keble, R. A., 2.
Lava, silicified, Hyderabad.—Hallowes, K. A. K.
Laval Basin (France).—Delépine, G., 2.
Lavas, Ambrym I.—Mingaye, J. C. H., 1.
——, Auvergne.—Glangeaud, P., 2, 4 & 11–14; Lacroix, A., 47; Sabatini, V., 1.
——, Bawean I. (E. Indies).—Iddings, J. P., 7.
——, Cent. Caucasus.—Loewinson-Lessing, F., 2 & 5.
——, Comoro Is.—Lacroix, A., 38.
——, French Guinea.—Hubert, H., 1 & 5.
——, Hawaii.—Cross, W., 2.
——, Iceland.—Hawkes, L., 3 & 5.
——, Italy.—Cumin, G., 2.
——, Japan.—Iddings, J. P., 5.
——, Madagascar.—Lacroix, A., 58.
——, Martinique.—Lacroix, A., 72.
——, Mauna Loa.—Jaggar, T. A., *fil.*, 3.
——, Morro Hill, S. California.—Waring, G. A., 2.
——, Mull.—McLintock, W. F. P.
——, Stromboli.—Perret, F. A.; Ponte, G., 3.
——, Sudan.—Lacroix, A., 75 & 78.
——, Teneriffe.—Navarro, L. F., 4.
——, analysis of.—Brun, A., 3.
——, leucitic, Italy.—Lacroix, A., 50, 53 & 54.
——, ——, Trebizond.—Lacroix, A., 73.
——, ——, potash from.—Washington, H. S., 10.
——. *See also* Pillow-lavas.
Lavia (Finland).—Mækinen, E., 2.
LAVIS, H. J. J., *Obit.*—*See* Anon., 55; *&* Woodward, A. S., 2.
Lawsonite.—Rogers, A. F., 1.
Lawton oil & gas field (Oklahoma).—Wegemann, C. H., 10.
Lazulite.—Doelter, C., 1; Gaubert, P., 7.
LE CONTE, J., *Obit.*—*See* Fairchild, H. L., 1.
LE MAIRE, L., *Obit.*—*See* Madsen, V., 1.
Le Mans (France).—Lecointre, G., 1.
Le Roux (Belgium).—Lassine, A., 4.
Lea R. Valley.—Reid, C., 1; Warren, S. H., 2; Wrigley, A., 1.
Lead, British Columbia.—Uglow, W. L., 3.
——, China.—Wheler, A. S., 2.
——, Derbyshire.—Stuckey, L. C.
——, Durham.—Louis, H., 1.
——, Illinois.—Cox, G. H., 1.
——, Mexico.—Flores, T., 5.
——, Missouri.—Guess, H. A.; Siebenthal, C. E., 2.
——, New Brunswick.—Cairnes, D. D., 9.
——, Ontario.—Newnam, W. E.
——, Putao (Upper Burma).—Stuart, M., 4.
——, Quebec.—Bancroft, J. A., 1; Mailhiot, A., 2.
——, Rhodesia.—Speak, S. J.
——, Scotland.—Mitchell, J.
——, Tasmania.—Hills, L., 2 & 3.
——, Transvaal.—Anderson, W.
——, Utah.—Van Horn, F. R., 1.
——, Western Australia.—Harris, C. M.; Talbot, H. W. B., 4.
——, density of, from radioactive minerals.—Richards, T. W., 2 & 3; Soddy, F., 3.
——, in rare earths.—Zambonini, F., 2 & 5.
——, native, Russia.—Vorobieff, A. L.
——, ores of.—Fulton, C. H.
——, production.—Siebenthal, C. E., 3.
——, ——, Canada.—*See* CANADA, 3 & 8.
——, ——, United States.—Butler, B. S., 5; Dunlop, J. P., 1; Gerry, C. N.; Heikes, V. C., 1–4; Henderson, C. W., 1–3; Hill, J. M., 3; Yale, C. G.
——, thorium &.—Holmes, A., 17.
——. *See also* Silver-lead.
Lead-zinc silicate, new.—Vander Meulen, P. A., 2.
Leadville (Colorado).—Fitch, R. S.
Leaf-structures, in Mesozoic plants.—Halle, T. G., 3.
Leaia.—Bolton, H., 1.
Leatherhead (Surrey).—Young, G. W., 3.
Lebanon, Mt. (Syria).—Douvillé, H., 1.
Lebong (Sumatra).—Hœvig, P., 1.
LEBOUR, G. A. L., *Obit.*—*See* Anon., 56; Harker, A., 6; *&* Sheppard, T., 17.
Lecanella.—Oppliger, F.
Lechatelierite.—Lacroix, A., 20.
Leda.—Anderson, F. M.; Branson, E. B., 3; Clark, B. L., 5; Cossmann, M., 1; Dall, W. H., 2; Dickerson, R. E., 5, 6 & 9; Fourtau, R., 4; Girty, G. H., 1 & 2; Krenkel, E.; Mansfield, W. C.; Mansuy, H., 1; Ravn, J. P. J., 5; Trechmann, C. T., 2; Waring, C. A.; Williams, H. S., 2.

Leda Clay.—Quebec.—Ardley, E., 2.
Ledian, Belgium.—Leriche, M., 5.
LEDOUX, A., *Obit.*—*See* Leriche, M., 8.
LEEDS, A. N., *Obit.*—*See* Harker, A., 6; & Woodward, A. S., 21.
Leeward Is. (W. Indies).—Vaughan, T. W., 7.
Legminosites.—Sangiorgi, D., 2.
Leguminosæ, development of the.—Andrews, E. C., 5.
Leicestershire.—Bonney, T. G., 4; Cox, A. H., 7; Horwood, A. R., 1–3; Maidwell, F. T., 3; Parsons, L. M., 1 & 2.
——, water-supply.—Pickering, A. J.
Leidleite.—Anderson, E. M., 2.
Leighton Buzzard (Bedford).—Lamplugh, G. W., 1.
Leiocidaris.—Clark, W. B., 3.
Leiodorella.—Oppliger, F.
Leiopteria.—Dunlop, R., 2; Fuchs, A.; Kegel, W.; Mansuy, H., 1; Spriestersbach, J.; Williams, H. S., 2.
Leiorhynchus.—Girty, G. H., 3; Mansuy, H., 1; Weller, S., 1.
Leiosella.—Canu, F., 11.
Lembergite.—Doelter, C., 2.
Leme, Strait (Istria).—Taramelli, T., 6.
Lemieux Township (Quebec).—Mailhiot, A., 2.
Lemuroidea, classification & phylogeny of the.—Gregory, W. K., 2.
Lenham Sandstone, Kent.—Newton, R. B., 1.
Lennard R. (Western Australia).—Etheridge, R., *fil.*, 1.
Lenneschiefer, Rhine Valley.—Spriestersbach, J.
Lennonville dist. (Western Australia).—Jutson, J. T., 2.
Lenskoi (Siberia).—Purington, C. W., 4.
Leona Rhyolite, California.—Clark, C. W.
Leopardus.—Campana, D. del, 4.
Lepadidæ, derivation of the.—Clarke, J. M., 10.
Lepas.—Pilsbry, H. A., 2.
Leperditia.—Chapman, F., 23 & 30; Hede, J. E., 3; Mansuy, H., 1; Savage, T. E., 4.
Lepidactis & *Lepidaster.*—Spencer, W. K., 2.
Lepidasterella.—Schuchert, C., 2.
Lepidocoleus.—Hede, J. E., 2; Withers, T. H., 2.
Lepidocyclina.—Chapman, F., 1; Checchia-Rispoli, G., 14; Cushman, J. A., 2; Douvillé, H., 8 & 28; Molengraaff, G. A. F., 4; Newton, R. B., 5; Yabe, H., 8.
Lepidolite.—Comucci, P., 1; Doelter, C., 2.
Lepidophloios.—Arber, E. A. N., 1; Kidston, R., 4.
Lepidophyllum.—Antevs, E., 10.
Lepidopteris.—Antevs, E., 3.
Lepidorbitoides.—Douvillé, H., 22.
Lepidostrobus.—Arber, E. A. N., 1; Scott, D. H., 2 & 9.
Lepidotus.—Eastman, C. R., 2; Erasmo, G. d', 1; Hussakof, L., 6; Priem, F., 3; Woodward, A. S., 13.
Lepralia.—Chapman, F., 16.
Leptæna.—Hede, J. E., 3; Kindle, E. M., 3; Reed, F. R. C., 4; Savage, T. E., 4; Weller, S., 1; Williams, H. S., 2; Williams, M. Y., 11.
—— Limestone, Sweden.—Isberg, O., 1 & 3; Tœrnquist, S. L., 2.
Leptænoidea.—Hedstrœm, H., 4.
Leptagonia.—Fuchs, A.
Leptaleoceras.—Buckman, S. S., 3.
Leptarbacia.—Clark, W. B., 3.
Leptella.—Reed. F. R. C., 4.
Leptobolus.—Chapman, F., 23.
Leptoceratops.—Brown, B., 4.
Leptocœlia.—Williams, H. S., 2.
Leptodesma.—Girty, G. H., 2.
Leptodomus.—Fuchs, A.; Mansuy, H., 1.
Leptolepis.—Erasmo, G. d', 1.
Leptopsis.—Stefani, C. de, 4.
Leptoria.—Gregory, J. W., 39; Vaughan, T. W., 12.
Leptoseris.—Vaughan, T. W., 12.
Leptostrophia.—Williams, H. S., 2.
Leptotheridium.—Depéret, C., 5.
Leptothorax.—Cockerell, T. D. A., 14.
Leptothyra.—Clark, B. L., 1; Cossmann, M., 1.
Leptynite, Portugal.—Lacroix, A., 40.
Lepus.—Peach, B. N.; Merriam, J. C., 7.
——, migrations of.—Joleaud, L., 6.
Lerida, Prov. (Spain).—Vidal, L. M.
Lesignano Bagni (Italy).—Anelli, M., 1.
Leslie (Fifeshire).—Wright, J., *fil.*, 1.
Lesquin (Nord).—Pagniez, —, 5.
Lesse Valley (Belgium).—Stevens, C.
Letti I. (E. Indies).—Molengraaff, G. A. F., 4.
Leucadia I. (Greece).—Critikos, N.; Eginitis, D., 2, 3 & 6.
Leuciscus.—Eastman, C. R., 2; Hussakof, L., 2.
Leucite.—Colomba, L., 2; Doelter, C., 2; Zambonini, F., 8.
Leucitic lavas, Italy.—Lacroix, A., 50, 53 & 54.
—— ——, Trebizond.—Lacroix, A., 73.
—— ——, potash from.—Washington, H. S., 10.
Leuconia.—Morgan, J. de, 3.
Leucosilia.—Rathbun, M. J., 4.
Levack (Ontario).—Brackenbury, C.
Levantinian, Roumania.—Botez, G. 2.
Level, changes of, due to earthquakes.—Schæfer, O.
——, disturbance of, due to tidal load.—Terazawa, K.

Level, oscillations of.—Judd, J. W., 2; Karlsson, G.; Mitchell, G. J., 2; Wilkman, W. W., 1.
Levels, post-glacial, Lough Neagh.—Wright, W. B., 2.
Leverrierite.—Doelter, C., 2.
Lévis (Quebec).—Raymond, P. E., 1.
LEVY, A. M., *Biogr.*—*See* Lacroix, A., 71.
——, *Obit.*—*See* Lacroix, A., 4.
LEWER, R. R., *Obit.*—*See* Harker, A., 4.
Lexoconcha.—Chapman, F., 3 & 16.
Leyte (Philippine Is.).—Pratt, W. E., 2.
Lherzolite, Pyrenees.—Lacroix, A., 52.
Lian-shan (China).—Hayasaka, I., 3.
Lias, Apennines.—Caterini, F., 2.
——, Arabia.—Greco, B., 1.
——, Aveyron dist.—Monestier, J.
——, Calabria.—Onetti, A.
——, Celto-Swabian Jura.—Rollier, L., 1.
——, Cochin China.—Mansuy, H., 1.
——, Dorsetshire.—Wingrave, W.
——, France.—Couffon, O.
——, Germany.—Schmidt, E. W.; Schuchert, C., 3.
——, Gloucestershire. — Richardson, L., 2.
——, Italy.—Zuffardi, P., 1.
——, Lincolnshire.—Preston, H.; Trueman, A. E., 3 & 6.
——, Lombardy.—Mariani, E., 2.
——, Mexico.—Lozano, E. D., 1 & 2; Wieland, G. R., 1.
——, Normandy.—Mazetier, G.
——, Nottinghamshire. — Trueman, A. E., 1.
——, Oxfordshire.—Walford, E. A., 1.
——, Rugby dist.—Nuttall, W. L. F.
——, Saxony.—Brandes, T.
——, Spain.—Cisneros, D. J.
——, Switzerland.—Jeannet, A., 1.
——, Umbria.—Meli, R., 7; Principi, P., 5.
——, Western Is., Scotland.—Thorneycroft, W.
——, Würtemberg.—Woodward, A. S., 11.
——, chronology.—Buckman, S. S., 3.
Libellula.—Meunier, F.
Libocedrus.—Colani, M.
Libya (N. Africa).—Artini, E., 1; Ball, J., 2; King, W. J. H., 3 & 4.
Libycoceras.—Greco, B., 2.
Lichas.—Reed, F. R. C., 3.
Lichenalia.—Williams, M. Y., 4.
Lichenopora.—Canu, F., 2 & 3; Faura, M.
Lichfield (Staffordshire).—Barrow, G., 8.
Lickey Hills (Worcestershire).—Gray, J. W.
Licking R. (Ohio).—Lamb, G. F.
Licq-Atherey (Basses-Pyrénées).—Bertrand, L., 1.
LIEBER, H., *Obit.*—*See* Kayser, E., 2.
Liebnerite.—Doelter, C., 2.
Liège coal field (Belgium).—Renier, A., 2.
Lievrite.—Flink, G., 4; Sundius, N., 1.
Ligament, of lamellibranchia.—Douvillé, H., 13.
Ligamentum teres, in proboscidea.—Barbour, E. H., 4.
Lightning, fissure caused by.—Holmboe, J., 1.
Ligne (Belgium).—Halet, F., 3.
LIGNIER, O., *Obit.*—*See* Seward, A. C., 3.
Lignite, Alberta.—Haanel, B. F., 2.
——, Basses-Pyrénées.—Stuart-Menteath, P. W., 4; Welsch, J., 1 & 2.
——, Dauphiné.—Gorceix, C., 3; Révil, J., 5.
——, Germany.—Young, G. J., 2.
——, Gt. Britain.—Strahan, Sir A., 16.
——, Italy.—Sani, G.; Ugolini, R.
——, Maritime Alps.—Maury, E., 2.
——, Montana.—Bauer, C. M., 1.
——, New Zealand.—Rands, H.
——, North Dakota.—Lloyd, E. R., 1.
——, Saskatchewan.—MacLean, A., 3.
——, Saxony.—Stevenson, J. J., 5.
——, South Dakota.—Winchester, D. E., 2.
——, Spain.—Alvarado, A. de.
——, Switzerland.—Wehrli, L.
——, Turkey.—Dominian, L.
——, Victoria.—Herman, H., 2.
——, carbonisation of.—Stansfield, E., 2 & 3.
——, utilisation of.—Haanel, B. F., 1.
Liguria (Italy).—Agamennone, G., 5; Franchi, S., 1; Preller, C. S. du R., 9–12.
——, minerals.—Riva, P.
Liljendal (Finland).—Ramsay, W.
Liljevallia.—Hedstrœm, H., 4.
Lille (France).—Delépine, G., 3.
Lillooet (B.C.).—Camsell, C., 10.
Lilydale (S. Australia).—Howchin, W., 3.
Lima.—Cossmann, M., 1, 5 & 7; Dall, W. H., 5; Dickerson, R. E., 9; Douvillé, H., 22; Frauenfelder, A.; Girty, G. H., 1; Greco, B., 4; Krenkel, E.; Mansuy, H., 1; Newton, R. B., 9; Onetti, A.; Ravn, J. P. J., 6; Rollier, L., 3; Sheppard, T., 15; Spitz, A., 1; Waring, C. A.
Limœa.—Cossmann, M., 7.
Limagne (France).—Glangeaud, P., 4.
Limatula.—Cossmann, M., 5; Girty, G. H., 1; Trechmann, C. T., 2.
Limbourg (Holland).—Klein, W. C.
Limbs, of *Diplodocus.*—Mook, C. C., 6.

Lime, in soils.—Veitch, F. P.; Wild, L. J., 2 & 3.
Lime belt, S. Valdes I. (B.C.).—Cairnes, D. D., 4.
—— silicates, in igneous rocks.—Washington, H. S., 3.
Lime-ferric oxide, the system.—Sosman, R. B., 5.
Limestone, Belgium.—Anthoine, R., 2.
——, Gotland.—Munthe, H., 1.
——, Lake Constance.—Baumann, E.
——, Mysore.—Balaji Rao, B., 3; *see also* 'Kankar.'
——, New South Wales.—Carne, J. E.
——, New Zealand.—Marshall, P., 4; Speight, R., 11; Wild, L. J., 5; *see also* NEW ZEALAND, 5.
——, Norway.—Holtedahl, O., 6; Oxaal, J., 2; Rekstad, J., 3.
——, Ontario.—*See* CANADA, 17.
——, Quebec.—*See* CANADA, 5 & 13.
——, Queensland.—Jensen, H. I., 4; Saint-Smith, E. C., 6.
——, S. Africa.—Maury, C. J., 1; Wybergh, W.,
——, Sweden.—Grœnwall, K. A., 2; Hedstrœm, H., 1; Svenonius, F., 4.
——, Switzerland.—Arndt, H.
——, Tasmania.—Twelvetrees, W. H., 1 & 6.
——, W. Australia.—*See* WESTERN AUSTRALIA, 1 & 10.
——, algal, Angola.—Romanes, M. F.
——, ——, Hudson Bay.—Moore, E. S., 5.
——, ——, Sweden.—Wiman, C., 2.
——, concretionary.—Bradford, S. C.
——, deposition of.—Johnston, J., 6.
——, felspar in.—Daly, R. A., 13; Lapparent, J. de, 4.
——, foraminiferal, Borneo.—Rutten, L., 3.
——, ——, New Guinea.—Newton, R. B., 5 & 8.
——, ——, Papua.—Chapman, F., 1.
——, formation of thick beds of.—Salomon, W., 1.
——, fossiliferous, from North Sea.—Newton, R. B., 6.
——, hydraulic, S. Nottinghamshire.—Trueman, A. E., 1.
——, lacustrine.—Dollfus, G. F., 6.
——, marine, dips in.—Mather, K. F., 3.
——, mottled.—Van Tuyl, F. M., 6.
——, ore deposits &.—Umpleby, J. B., 2.
——, organically formed.—Osten-Sacken, O. B. von der.
——, origin of.—Clarke, F. W., 5; Meunier, S., 16; Warth, H., 1.
——, Palæozoic.—Brown, T. C., 3.
——, pisolitic.—Cayeux, L., 4.
——, recrystallisation of, at igneous contacts.—Leith, C. K., 2.
Limestone, ripple marks in.—Prosser, C. S., 4.
——, siliceous, formation of.—Lapparent, J. de, 5.
——, solution of.—Eskola, P., 1; Kindle, E. M., 2; Mayor, A. G., 2 & 3.
——, Vindhyan, spiral impression in.—Beer, E. J.
——, weathering of.—Abbott, G., 3; Fleury, E., 4 & 5; Merrill, G. P., 7.
Limestone districts, hydrology of.—Grossouvre, A. de, 3.
—— Mountain (Michigan).—Case, E. C., 7.
—— products.—Brown, W. A.
Limicolavis.—Shufeldt, R. W., 2.
Limnœa.—Cossmann, M., 1; Dollfus, G. F., 5; Robinson, W. I., 1; Roman, F., 2.
Limnocardium.—Nelli, B., 1.
Limnoscala.—Cossmann, M., 1.
Limonite.—Emerson, B. K., 3.
——, Euganean Hills.—Billows, E.
——, Switzerland.—Stauffacher, J., 1.
——, Victoria.—Dunn, E. J., 8.
Limonius.—Wickham, H. F., 1.
Limopsis.—Marshall, P., 8; Ravn, J. P. J., 5.
Limoptera.—Fuchs, A.; Kegel, W.; Spriestersbach, J.; Williams, H. S., 2.
Limpsfield (Surrey).—Fagg, C. C., 1.
Lincolnshire.—Trueman, A. E., 3 & 6.
Lindackerite.—Doelter, C., 1.
LINDSEY, C. R., *Obit.*—*See* Anon., 57.
Lindstrœmia.—Hede, J. E., 2.
Lindved (Sweden).—Rosén, N.
Lineirhynchia.—Buckman, S. S., 4.
Linera (Sicily).—Sabatini, V., 2 & 5.
Linga (Cent. Provs., India).—Fermor, L. L., 9.
Linguithyris.—Buckman, S. S., 4.
Lingula.—Bolton, H., 1; Chapman, F., 21; Diener, C.; Fuchs, A.; Girty, G. H., 3; Hede, J. E., 2; Mansuy, H., 1; Reed, F. R. C., 4; Stefani, C. de, 4; Trowbridge, A. C., 3; Weller, S., 1; Williams, H. S., 2.
Lingulasma.—Reed, F. R. C., 4.
Lingulella.—Chapman, F., 23; Jehu, T. J., 3; Walcott, C. D., 4.
Lingulidæ, Jurassic.—Rollier, L., 6.
Lingulidiscina.—Girty, G. H., 2.
Lingulipora.—Girty, G. H., 1.
Lingulops.—Savage, T. E., 4.
Linopteris.—Bertrand, P., 1 & 4.
Linth R. Valley (Switzerland).—Oberholzer, J., 1.
Linthia.—Checchia-Rispoli, G., 1 & 7; Clark, W. B., 3; Stefanini, G., 4 & 5.
Linton (Ohio).—Case, E. C., 4.
Lintons (Victoria).—Baragwanath, W., 3.
Linum.—Reid, C. 1.

Liodonax.—Cossmann, M., 1.
Liomesus.—Bell, A., 5.
Liomphalus.—Chapman, F., 6.
Liospira.—Parks, W. A., 2; Savage, T. E., 4; Williams, M. Y., 11.
Liostracus.—Illing, V. C., 1.
Liostrea.—Cossmann, M., 5 & 7; Greco, B., 4.
Liothyrina.—Thomson, J. A., 5.
Liotia.—Chapman, F., 16; Dall, W. H., 2 & 5.
Lipai (Sumatra).—Zwierzycki, J., 1.
Liparite, Italy.—Cumin, G., 1.
Liparoceras.—Trueman, A. E., 5.
Liparoceratidæ, evolution of the.—Trueman, A. E., 5.
LIPSIUS, C. G. R., *Obit.*—*See* Anon., 58.
Liquidambar.—Baumberger, E., 2; Colani, M.; Reid, C., 6.
Liquids, anisotropic, orientation on crystals.—Grandjean, F., 1–3.
Liri R. (Italy).—Franchi, S., 7.
Liriodendron.—Reid, C., 6.
Lirokonite.—Doelter, C., 1.
Lirosoma.—Wade, B., 3.
Lisania.—Walcott, C. D., 5.
Lisbon (Portugal).—Lacroix, A., 68; Sequeira, G. de Matos.
Liskeardite.—Doelter, C., 1.
Lissar Valley (Cent. Himalaya).—Grinlinton, J. L.
Lissatrypa.—Twenhofel, W. H., 1.
Lister (Norway).—Danielsen, D., 2.
Listriodon.—Dupuy de Lome, E., 1.
Litchfield (Connecticut).—Howe, E.
—— (Maine).—Daly, R. A., 14.
Litchfieldite.—Daly, R. A., 14.
Lithagrion.—Cockerell, T. D. A., 19.
Lithium, in volcanic exhalations.—Brun, A., 4.
Lithodomus.—Cossmann, M., 5 & 7; Fucini, A.; Rollier, L., 2.
Lithographus.—Lull, R. S., 3.
Lithophaga.—Dall, W. H., 2; Girty, G. H., 2.
Lithophyses.—*See* Cavities.
Lithosphere, degradation of the.—Ehrenfeld, F.
——, physical conditions & structure.—Barrell, J., 5; Willis, B.
Lithostrotion.—Garwood, E. J., 1; Smith, S., 1.
Lithothamnia, fossil.—Œyen, P. A., 4.
Lithothamnium.—Chapman, F., 16; Howe, M. A.; Newton, R. B., 5 & 10; Romanes, M. F.; Samsonoff-Aruffo, C., 2 & 3; Yabe, H., 7.
Litsea.—Baumberger, E., 2.
Little Colorado Valley (Arizona).—Gregory, H. E., 1.
Little Heath (Herts.).—Gilbert, C. J., 2; Smith, R. A., 3.
Little Missenden (Bucks.).—Strahan, Sir A., 3.
Littoral deposits, Picardy.—Briquet, A.
Littorina.—Clark, B. L., 1; Dickerson, R. E., 9.
—— horizon, Norway.—Reusch, H., 5.
—— ——, Sweden.—Halden, B. E., 2 & 3; Munthe, H., 7.
Littorinidæ, Pliocene.—Cerulli-Irelli, S., 1.
Littry (Calvados).—Termier, P., 10.
Lituites.—Reed, F. R. C., 3.
Liverpool (England).—Greenwood, H. W., 2; Wray, D. A., 2.
Liverpool R. (Nova Scotia).—Faribault, E. R., 4.
Livramento, Villa de (Brazil).—Williams, H. E.
Livry (Seine-et-Oise).—Dollot, A., 6.
Llantwit Major (S. Wales).—Cantrill, T. C., 1.
Llapo (Peru).—Jiminez, J. V.
Llay Hall (Denbighshire).—Pringle, J., 3.
Lluta R. Valley (Chile).—Felsch, J., 3.
Llyfnant Valley (Montgomery).—Jones, O. T.
Loadstone, S. Australia.—Mawson, Sir D., 1.
Loam, formation of.—Fraipont, C., 1.
Lobito Bay (S.-W. Africa).—Gregory, J. W., 34; Versfeld, W., 4.
Loboidothyris.—Buckman, S. S., 4.
Lobopora.—Canu, F., 2.
Lobothyris.—Buckman, S. S., 4.
Lobster shells, constituents of.—Clarke, F. W., 6.
Lockeport dist. (Nova Scotia).—Faribault, E. R., 6.
Loco gas field (Oklahoma).—Wegemann, C. H., 4.
Locustopsis.—Cockerell, T. D. A., 14.
Lode deposits, California.—Ferguson, H. G., 1.
—— ——, occurrence &c.—Beyschlag, F.
—— mining.—Warren, P. H.
—— ——, Idaho.—Jones, E. L., 4.
—— ——, Yukon Terr.—Cairnes, D. D., 8; *see also* CANADA, 1.
Lodes, tin & wolfram.—Jones, W. R., 6.
LODIN, A., *Obit.*—*See* Delafond, —.
Loess, Argentina.—Meigen, W.; Principi, P., 4.
——, Egypt.—Ferrar, H. T., 2.
——, Illinois.—Savage, T. E., 5.
——, Indiana.—Shaw, E. W., 5.
——, Louisiana.—Emerson, F. V.
——, Switzerland.—Leuthardt, F., 1.
——, Turkestan.—Preobrajensky, J., 2.
Lofoten Is. (Norway).—Vogt, T., 1.
Logis de Nans (Var).—Repelin, J., 3.
Loire R. Basin (France).—Bertrand, P., 6; Bochin, F., 1; Bureau, E.; Filliozat, M., 2.
Lomagundi dist. (S. Rhodesia).—Molyneux, A. J. C.
Lomatia.—Knowlton, F. H., 4.

Lombard overthrust, Montana.—Haynes, W. P.
Lombardy (Italy).—Mariani, E., 1 & 2; Menozzi, A.
Lombok I. (E. Indies).—Brouwer, H. A., 4.
Lomond, Loch (Scotland).—Gregory, J. W., 10.
Lonchocephalus.—Walcott, C. D., 3.
Lonchodomas.—Raymond, P. E., 5.
Lonchograptus.—Hadding, A., 2.
Lonchorhynchus.—Wiman, C., 1, 3 & 8.
London (England), geography.—Davies, A. M., 1.
——, springs, streams & mineral waters.—Foord, A. S.
——, water-supply.—Tabberner, J. L.; *see also* LONDON, 1 *&* 4.
London Basin, Eocene.—Boswell, P. G. H., 2.
—— ——, Palæozoic platform.—Baker, H. A., 1 & 4.
—— ——, Pleistocene mammalia.—Woodward, A. S., 20.
—— ——, water-supply.—Hayward, R. B.
—— Clay.—Bather, F. A., 8.
—— ——, Essex.—Wrigley, A., 2.
—— dist. (Ontario).—Stansfield, J., 3.
Londonderry (Nova Scotia).—Hayes, A. O., 3.
Long, Loch (Scotland).—Gregory, J. W., 10 & 19.
Long Island (New York).—Fairchild, H. L., 3.
Long Lake (Ontario).—Baker, M. B., 1; Uglow, W. L., 2.
Long Tunnel mine (Victoria).—Baragwanath, W., 9.
Longarone (Italy).—Boyer, G. R.
LONGCHAMBON, M., *Obit.*—*See* Dollfus, G. F., 15.
Longmyndian succession.—Walker, W. T.
Longuelac-Oba dist. (Ontario).—Tanton, T. L., 6.
Lonquimai (Chile).—Felsch, J., 1.
Lonsdaleia.—Garwood, E. J., 1; Mansuy, H., 2; Smith, S., 1.
Lönstrup Headland (Denmark).—Jessen, A., 2.
Loomberah dist. (N.S.W.).—Benson, W. N., 6.
Loon Lake I. (Nova Scotia).—Faribault, E. R., 4.
Loops, of brachiopoda.—Thomson, J. A., 4.
Lophiodon.—Depéret, C., 1 & 2.
Lophiohyus.—Sinclair, W. J., 1.
Lophiotherium.—Depéret, C., 2 & 5.
Lophophyllum.—Garwood, E. J., 1; Girty, G. H., 1; Mansuy, H., 2; Yakovlev, N. N.
Lophospira.—Holtedahl, O., 1; Savage, T. E., 4; Williams, M. Y., 11.
Lophothyris.—Buckman, S. S., 4.
Lopolith, the.—Grout, F. F., 2.
Lorca (Spain).—Dupuy de Lome, E., 4.
Lord Howe I. (S. Pacific).—Howchin, W., 6.
Lord Tennyson reef (Victoria).—Howitt, A. M., 3.
Lorelei (Germany).—Fuchs, A.
Lorettoite.—Wells, R. C., 3.
Loricella.—Hull, A. F. B.
Lorinna mining field (Tasmania).—Reid, A. M., 2.
Loripes.—Cossmann, M., 8.
Lorraine (France).—Kluepfel, W., 1 & 2; Leriche, M., 7.
—— iron ores.—Rastall, R. H., 4.
Los, Archipelago (Fr. Guinea).—Lacroix, A., 66.
Los Alamos (Chile).—Brueggen, J., 1.
Los Angeles (California).—Moody, C. L., 1.
Los Oscos (Spain).—Sampelayo, P. H., 2.
Lossenite.—Doelter, C., 1; Lacroix, A., 10.
Lost River (New Hampshire).—Goldthwait, J. W., 4.
Lothians (Scotland).—Cadell, H. M., 1; Carruthers, R. G., 1; Gordon, W. T., 1.
Lötschberg tunnel (Switzerland).—Grenouillet, W.
LOUGHRIDGE, R. H., *Obit.*—*See* Smith, E. A., 3.
Louisiade gold field (Papua).—Stanley, E. R., 2.
Louisiana (U.S.A.).—Emerson, F. V.
——, iron ores.—Burchard, E. F., 2.
——, oil & gas fields.—Chautard, J.; Gardner, J. H., 3; Lucas, A. F.; Matson, G. C., 2.
——, salt deposits.—Norton, E. G.
Lovenia.—Dickerson, R. E., 14; Hawkins, H. L., 1.
LOVISATO, D., *Obit.*—*See* Anon., 59; *&* Lacroix, A., 32.
Loxonema.—Branson, E. B., 5; Chapman, F., 6; Dunlop, R., 2; Mansuy, H., 1; Stauffer, C. R., 5; Stefani, C. de, 4; Williams, H. S., 2.
Lu Kiang R. Basin (Yünnan).—Deprat, J., 14; *see also* Salween.
Lualaba R. (Belgian Congo).—Leriche, M., 4.
Luarca dist. (Spain).—Sampelayo, P. H., 3.
Lublinite.—Quercigh, E., 6.
Lubuk Sulassih (Sumatra).—Adam, J. W. H.
Luceram (Maritime Alps).—Orcel, J., 2.
Lucerne, Lake of (Switzerland).—Baumberger, E., 2.
Lucianite.—Hilgard, E. W., 2.
Lucina.—Dickerson, R. E., 5, 6 & 9; Douvillé, H., 22; Fourtau, R., 4; Fucini, A.; Greco, B., 4; Krenkel, E.; Llueca, F. G.; Onetti, A.; Ravn, J. P. J., 5; Stefani, C. de, 4.

Lucinite.—Schaller, W. T., 3.
Lucuma.—Berry, E. W., 2.
Ludian, France.—Depéret, C., 5.
Ludiophanes.—Wickham, H. F., 1.
Ludwig, E., *Obit.*—*See* Anon., 60; *&* Berwerth, F., 2.
Luembe & Lufuishi Rivers (Belgian Congo).—Schwetz, —
Lugano, Lake of (Switzerland).—Frauenfelder, A.
Lugar (Ayrshire).—Tyrrell, G. W., 4 & 6.
Lugo, Prov. (Spain).—Sampelayo, P. H., 1.
Lukuga & Lubumba Rivers (Belgian Congo).—Fourmarier, P., 2.
Lule R. (Lappland).—Frœdin, J., 1 & 2.
Lumbricaria.—Stefani, C. de, 4.
Luna Co. (New Mexico).—Darton, N. H., 1.
Lunatia.—Dickerson, R. E., 5 & 6.
Lüneburgite.—Doelter, C., 1.
Lung-fish, Carboniferous.—Hussakof, L., 3.
Lunigiana (Italy).—Stefani, C. de, 2 & 3.
Lunularia.—Canu, F., 4; Faura, M.
Lurgecombe Mill (Devonshire).—Smith, H. G., 1.
Lusitanian, Portugal.—Dehorne, Y., 4.
Lusitanite, Portugal.—Lacroix, A., 40.
Lutetian, France.—Charpiat, R., 4–6, 9, 10 & 13; Hure, A.
Lutraria.—Cossmann, M., 8.
Lutvatn (Norway).—Rekstad, J., 7.
Luwu (Celebes).—Knijff, J. de K.
Luxembourg.—Maillieux, E., 5.
Luzon (Philippine Is.).—Heise, G. W., 6; Smith, W. D., 1.
Lycognathus.—Broom, R., 4 & 5.
Lycopus.—Reid, C., 6.
Lycosuchus.—Watson, D. M. S., 3.
Lycyæna.—Campana, D. del, 2.
Lyd Valley (Devonshire).—Mennell, F. P., 1.
Lydden R. Valley (Kent).—Kidston, R., 2.
Lydekker, R., *Obit.*—*See* Anon., 61; & Woodward, A. S., 8.
Lydekkeriana.—Broom, R., 8.
Lydstep Haven (Pembroke).—Hinton, M. A. C., 2.
Lyellia.—Savage, T. E., 4; Williams, M. Y., 11.
Lygodium.—Matson, G. C., 3.
Lyman Schists, New Hampshire.—Lahee, F. H., 1.
Lyme Regis (Dorset).—Young, G. W., 5.
Lymington dist. (Hampshire).—White, J. O., 1.
Lyons (France).—Bertrand, P., 8.
Lyons Gap (Virginia).—Shuler, E. W., 1.
Lyonsia.—Cossmann, M., 1.
Lyothyrella.—Jackson, J. W., 2.
Lyria.—Cossmann, M., 1; Dall, W. H., 2 & 5; Douvillé, H., 22; Greco, B., 3; Waring, C. A.
Lyrocephalus.—Wiman, C., 1 & 3.
Lys Basin (Pennine Alps).—Giandotti, M., 1.
Lyster-Böverdal dist. (Norway).—Rekstad, J., 2.
Lystrosaurus.—Haughton, S. H., 1.
Lytechinus.—Checchia-Rispoli, G., 10.
Lytoceras.—Marshall, P., 7; Principi, P., 5; Zuffardi, P., 1.
Lyttonia.—Diener, C.; Mansuy, H., 2.

Ma-Li-Po (Tonkin).—Deprat, J., 7.
Macacus.—Pilgrim, G. E., 5.
McArthur R. dist. (N. Terr., Australia).—Jensen, H. I., 1.
Macclesfield dist. (Cheshire).—Baker, B. W.
MacClintockia.—Kryshtofovich, A., 2.
Maccoyella.—Newton, R. B., 2.
MacDonnell Ranges (Cent. Australia).—Etheridge, R., *fil.*, 4.
Macedonia.—Faucher, D., 1 & 2; Niculescu, C., 3; Patte, E.
Machœracanthus.—Kegel, W.
Machairodus.—Pavlow, M., 2.
McHenry, A., *Obit.*—*See* Clarke, R.; *&* Cole, G. A. J., 16.
Machynlleth (Montgomery).—Jones, O. T.
M'Kandhla (S. Africa).—Lunt, J.
McKay, A., *Obit.*—*See* Harker, A., 6; *&* Thomson, J. A., 14.
Mackenzie R. Basin (Canada).—Camsell, C., 13; Kindle, E. M., 5 & 12; O'Neill, J. J., 1.
Mackinac I. (Lake Huron).—Taylor, F. B., 1.
McKittrick dist. (California).—Gester, G. C.
Macles.—Lacroix, A., 19; Sigg, H., 2 & 3.
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Maclurea.—Holtedahl, O., 1; Parks, W. A., 2.
McMullen Co. (Texas).—Deussen, A., 2.
McMurray (Alberta).—Ells, S. C., 2.
McNeill, B., *Obit.*—*See* Anon., 62; *&* Harker, A., 4.
Macoma.—Clark, B. L., 1; Dall, W. H., 2; Nomland, J. O., 5.
Macomb Quadrangle (Illinois).—Hinds, H., 1 & 2.
Macomer (Sardinia).—Serra, A., 2.
Mâcon (France).—Lacroix, A., 13.
Macrobrachium.—Rathbun, M. J., 4.
Macrocallista.—Clark, B. L., 5; Dall, W. H., 2; Dickerson, R. E., 5; Marshall, P., 13; Moody, C. L., 1; Waring, C. A.

Macrocephalites.—Douvillé, R.
Macrocheilus.—Dunlop, R., 2.
Macrochilina.—Mansuy, H., 2; Stefani, C. de, 4.
Macrocypris.—Chapman, F., 18; Hede, J. E., 3.
Macrodon.—Krenkel, E.; Mansuy, H., 2; Stefani, C. de, 4; Trechmann, C. T., 2.
Macropneustes.—Clark, W. B., 3; Dickerson, R. E., 14; Lambert, J., 6.
Macropora.—Gregory, J. W., 23.
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Macroscelesaurus.—Haughton, S. H., 6.
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Mactromya.—Fucini, A.
Macugnana glacier.—Porro, F., 3.
Maculopeplum.—Newton, R. B., 1.
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——, fish remains from.—Andersson, E., 1.
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Maddur (Mysore).—Jayaram, B., 4.
Madison (Wisconsin).—Winchell, A. N., 2 & 3.
Madoc (Ontario).—Walker, T. L., 4.
Madonie (Sicily).—Checchia-Rispoli, G., 3.
Madrepora.—Filliozat, M., 2; Nomland, J. O. 1.
Madura I. (E. Indies).—Brouwer, H. A., 4.
Mœandra.—Vaughn, T. W., 12.
Mœsa.—Reid, C., 6.
Maestêg (Glamorgan).—Strahan, Sir A., 15.
Maestrichtian, Egypt.—Greco, B., 4.
Magadina & *Magadinella.*—Thomson, J. A., 4.
Magas.—Ravn, J. P. J., 2.
Magdalen Is. (Canada).—Goldthwait, J. W., 3.
Magdalena (Mexico).—Peña, M., 4.
——, Bay of (Lower California).—Galvez, V., 3.
Magdalenian, Europe.—Evans, Sir A.
——, France.—Reverdin, L.
——, Savoy.—Cartier, A.; Muller, H.
Magella.—Thomson, J. A., 4.
Magellan, Prov. (Chile).—Felsch, J., 2.
——, Straits of.—Earl, T. C., 2.
Magenta (Italy).—Airaghi, C., 1.
Maggiore, Lake (Italy).—Sozzani, A.; Vercelli, F., 2.
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Magmas, basaltic.—Bowen, N. L., 2.
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—— ——, Durham.—Woolacott, D., 3.
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——, Australia & New Zealand.—Morgan, P. G., 4.
——, British Columbia.—Camsell, C., 12.
——, Letti I. (E. Indies).—Molengraaff, G. A. F., 4.
——, Mysore.—Venkataramaiya, B. N., 2.
——, Nova Scotia.—Hayes, A. O., 3.
——, Quebec.—Wilson, M. E., 4.
——, Spain.—Dupuy de Lome, E., 2.
——, Victoria.—Dunn, E. J., 6; Mahony, D. J., 3.
——, Washington.—Jenkins, O. P., 2.
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Magpie-Hawk dist. (Ontario).—Collins, W. H., 7.
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Maiden Bradley (Wiltshire).—Bartlett, B. P.
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Maigelstal (Switzerland).—Grubenmann, U., 2.
Maikop (Russia).—Calder, W.
Main R. Valley (Germany).—Wenz, W.
Maine (U.S.A.).—Blaney, D.; Daly, R. A., 14; Davis, C. A., 1; Katz, F. J., 5; Meserve, P. W.; Williams, H. S., 1 & 2.
Maine-et-Loire, Dept. (France).—Couffon, O.
Maisières Chalk, Belgium.—Cornet, J., 4.
Maisonville Township (Ontario).—Burrows, A. G., 5.
Maisprach (Switzerland).—Suter, R.
Maitai Series, N.Z.—Broadgate, F. K.; Morgan, P. G., 5; Trechmann, C. T., 3.
Majorca I. (Balearic Is.).—Buen y Lozano, R. de; Fallot, P., 1; Llueca, F. G.
Makiminé (Japan).—Kato, T., 1.
Malachite.—Anthoine, R., 4; Mazetier, G.; Van der Lingen, J. S.
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Malhove (Pas-de-Calais).—Gosselet, J., 6.
Mallee dist. (Victoria).—Chapman, F., 3 & 16; Kenyon, A. S.
Malletia.—Clark, B. L., 5; Marshall, P., 8.
Malmkalk, Switzerland.—Buxtorf, A., 6.
Malo-Neswjetai (Russia).—Vasiliev, V. T.
Malta, I.—Bate, D. M. A., 1; Keith, Sir A., 2; Samsonoff-Aruffo, C., 4.
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Mammal, first restoration of a.—Sherborn, C. D., 2.
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——, Eocene.—Depéret, C., 1, 2 & 5; Granger, W., 2 & 4; Pilgrim, G. E., 9; Sinclair, W. J., 1.
——, Miocene.—Buwalda, J. P., 4; Cooper, C. F.; Dupuy de Lome, E., 1; Stehlin, H. G., 5.
——, Oligocene.—Roman, F., 1.
——, Pleistocene.—Allen, G. M., 2; Campana, D. del, 1; Hay, O. P., 1 & 2; Matsumoto, H., 2–4; Merriam, J. C., 3 & 12–14; Miller, G. S., 2; Stefano, G. de, 2; Stingelin, T.; Woodward, A. S., 6 & 20.
——, Pliocene.—Depéret, C., 4; Merriam, J. C., 11; Ossat, G. de A. d', 2.
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Tunisia. Tectonic zones. 1 cm. = 40 kilometres. 1918.—Gentil, L., 21.
—— & Numidia. Triassic beds. 1 cm. = 16 kilometres. 1915.—Joleaud, L., 3.
AFRICA (South). Asbestos occurrences. 1 : 3,000,000. 1918.—Hall, A. L., 7.

AFRICA (South). Medicinal Springs. 1 inch = 160 miles. 1917.—Rindl, M. M., 2.

——. Mineral Provinces. 1918.—Wagner, P. A., 7.

Bechuanaland. Molopo R. Basin. 1 inch = 21 miles. 1916.—Du Toit, A. L., 4.

Cape Province. Geological Survey. Sheet 16 (Belfast). 1 cm. = 1 mile. 1917.

——. ——. Sheet 27 (Maclear–Umtata). 1 inch = 3¾ miles. 1917.

——. Hoedjes Bay. 2 inches = about 1 mile. 1917.—Du Toit, A. L., 7.

——. Part of Namaqualand. 1 inch = 10 miles. 1915. Rogers, A. W., 2.

——. Shore lines in Cape & Karroo Periods 1915.—Schwarz, E. H. L., 2.

——. Schapenberg, Somerset West. 1 inch = 2 miles. 1917.—Walker, A. R. E.

——. Southern Karroo. 1 inch = 10 miles. 1917.—Rogers, A. W., 9.

——. Stellenbosch. 1 inch = 2 miles. 1917.—Shand, S. J., 7.

Natal. Parts of Impendhle & Ipolela. 1 inch = 1 mile. 1916.—Du Toit, A. L., 2.

——. Marble Delta. 2 inches = 1 mile; Lilani Limestone belt. 3 inches = 1 mile. 1918.—Wybergh, W.

——. Tugela Valley (Part). 1 inch = 1 mile. 1918.—Du Toit, A. L., 9.

——. Zones of the Karroo System. 1 inch = 20 miles. 1918.—Du Toit, A. L., 8.

Rhodesia. Karroo Rocks W. of the Queen's Mine. 1 inch = 2 miles. 1916.—Macgregor, A. M., 3.

——. Mining District of Matabeleland. 1 inch = 8 miles. No date. By F. P. Mennell.

—— (Southern). Country round Gatooma. 1 cm. = ¾ mile; Eiffel Flats, Gatooma. 1½ inch = 1 mile. 1918.—Zealley, A. E. V., 10.

——. (—). Country W. of Sinoia. 1 inch = 4 miles. 1919.—Molyneux, A. J. C.

——. (—). Great dyke at Selukwe. 1 inch = 3 miles. 1915.—Zealley, A. E. V., 2.

——. (—). Selukwe Mineral belt. 1 cm. = ¾ mile. 1919.—Maufe, H. B., 8.

——. (—). Selukwe Talc-Schist Formation. 1 cm. = ½ mile. 1914.—Zealley, A. E. V., 1.

AFRICA (South).

Rhodesia (Southern). Umtali Mineral belt. 1 inch = 5 miles. 1918.—Zealley, A. E. V., 7.

Transkei. Insizwa, Tonti & Tabankulu Ranges. 1 inch = 6 miles. 1917.—Du Toit, A. L., 6.

Transvaal. Barberton District (Dykes). 1 inch = 9 miles. 1917.—Hall, A. L., 2.

——. Barberton Gold Mining District. 1 inch = 2·347 miles. 1918.—Hall, A. L., 6.

——. Dolomite Series near Potgietersrust. 1 inch = 2·347 miles. 1916.—Young, R. B., 2.

——. Nepheline-Syenites. 3 cm. = 100 kilometres; Pilandsberg. 1 cm. = 10 kilometres. 1917.—Brouwer, H. A., 5.

——. Witwatersrand Gold-field. 1 : 60,000. 1916.—By E. T. Mellor.

——. ——. Central portion. Gold contents of Main Reef Leader. 1 : 10,000. 1916.—By H. F. Marriott.

——. ——. Eastern portion. 1 inch = about 1½ mile. 1915.—Mellor, E. T., 2.

AFRICA (South-West).

German S. W. Africa. Geology. 1 : 2,000,000; Physical divisions. 1 inch = 100 miles; Luderitz Bay (Angra Pequena) Diamond fields. 1 inch = 5½ miles. 1916.—Wagner, P. A., 4.

——. Portion of Hasnur District. 1 : 200,000. 1915.—Wagner, P. A., 1.

——. Volcano of Geitsi Gubib. 9 cm. = 4 miles. 1915.—Rogers, A. W., 3.

AFRICA (West).

Ashanti. Gold-fields. 1 inch = 4,000 feet. 1916.—Feldtmann, W. R., 2.

——. Winnebah Tin District. 1 inch = 9 miles. 1919.—MacDonald, D. J.

Belgian Congo. Katanga. Copper deposits. 1 cm. = 200 miles. 1917.—Bain, H. F., 5.

——. Katanga. Rivers. 1 : 10,000,000; Lake Samba & Kilubi R. 1 : 300,000; Grottoes of the Kilubi & Mai Rs. 1 : 10,000; Luembe & Lufuishi Rs. 1 : 125,000. 1917.—Schwetz, —.

——. Lukuga Coal-basin (Lake Tanganyika). 1 : 200,000. 1916.—Fourmarier, P., 2.

Gold Coast. 1 : 2,500,000. 1916.—Kitson, A. E., 1.

Ivory Coast & Haut Guinée. 1 : 10,000,000. 1914.—Azema, L., 3.

AFRICA (West).

Nigeria. Bauchi Tin mining area. 1918.—Canning, A. R.

——. Nassarawa Tin deposit. 1918.—Thomas, W. E.

Portuguese West Africa. Angola (Igneous Rocks). 1916.—Holmes, A., 9.

——. Angola. N. W. Portion. 1 inch = 70 miles. 1915.—Holmes, A., 3.

——. Plateau of Benguella. 1 inch = 20 miles. 1917.—Gregory, J. W., 33.

Senegal. Eocene Gulf. 1916.—Chudeau, R., 3.

——. Underground Water. 1 cm. = 20 kilometres. 1915.—Hubert, H., 3.

AMERICA (Central).

Honduras & Guatemala. Tectonic lines. 1 cm. = 100 kilometres; N. W. portion of Honduras. 1 cm. = 5 miles; E. portion of Guatemala. 1 cm. = 10 miles. 1918.—Powers, S., 12.

Mexico. Coal-fields. 1 inch = 288 miles; Coahuila Coal-field. 1 inch = 14½ miles. 1915.—Brown, E. O. F.

——. Furbero Oil-field. 1 inch = 2,000 feet. 1916.—Golyer, E. de, 2.

——. Guadalajara & Valley of Rio Grande. 1 : 200,000. 1919.—Waitz, P.

——. Iron & Copper deposits. 1 : 6,000,000. 1918.—Espinosa, L. C., 1.

——. Iron ores. 1 : 5,000,000. 1918.—Peredes, T., 7.

——. Isthmus of Tehuantepec. 1 : 250,000. 1917.—Hartley, B.

——. Lake Texcoco & neighbourhood. 1 : 166,000. 1918.—Flores, T., 4.

——. Liassic Flora. 1914.—Wieland, G. R., 1.

——. Megaseismic zone, Acambay—Tixmadeje. 1 : 200,000; Mexico State. 1 : 200,000. 1913.—Urbina, F., 3.

——. N. E. portion. Eocene deposits. 1 inch = 50 miles; Oligocene deposits. 1 inch = 42 miles. 1915.—Dumble, E. T., 3.

——. Oil-fields (*various*). 1916.—Huntley, L. G., 2.

——. Petroliferous Regions of the Isthmus. 1 cm. = 13 kilometres; Dept. of Pichucalco, Chiapas State. 1 cm. = 4 kilometres. 1919.—Casillas y Cruz, S., 1.

——. Petroliferous Regions bordering Gulf of Mexico. 1½ cm. = 100 kilometres; Yucatan. 1 cm. = 13 kilometres. 1919.—Casillas y Cruz, S. 2.

AMERICA (Central).

Mexico. Physiography. 1916.—Thayer, W. N., 1.

——. Probable Petroliferous Regions. 1 cm. = 100 kilometres. 1918.—Iglesias, C. A.

——. Seismological Maps. 1 : 10,000,000. 1918.—Lumbier, M. M., 2; & 1 : 700,000. 1913.—Urbina, F., 3.

——. Seismograph Stations. 1919.—Lumbier, M. M., 6.

——. Southern Oil-fields. 1917. — Lauer, A. W.

——. Submarine Continental Platform & distribution of Petroleum deposits. 1 cm. = 220 kilometres. 1918.—Urbina, F., 2.

Panama. Canal Zone. 1 cm. = 4 kilometres. 1918.—MacDonald, D. F., 2.

West Indies. Coral Reefs (*various*). 1918.—Vaughan, T. W., 12.

——. Antigua. Water-supply. 1914.—Tempany, H. A., 1.

——. Cuba. Firmeza District (Iron ores). 1917.—Roesler, M.

——. ——. Iron mines E. & W. of Santiago de Cuba. 1 inch = 8 miles. 1916.—Kemp, J. F., 2.

——. Porto Rico. 1 cm. = 6 kilometres. 1915.—Berkey, C. P.

——. Santo Domingo. 1 cm. = 70 kilometres. 1918.—Jones, W. F., 3.

AMERICA (North). Chief centres of Glaciation. 1915.—Osborn, H. F., 1.

——. Distribution of Horned Dinosaurs. 1917.—Brown, B., 7.

——. Distribution of Mylodon. 1915.—Lull, R. S., 1.

——. Generalized Geological Map. 1911.—By C. Schuchert.

——. Mesozoic Palæogeography. 1916.—Schuchert, C., 7.

——. Palæozoic Palæogeography. —Schuchert, C., 20.

——. Physiographic Divisions. 1 inch = 1,000 miles. 1918.—Thayer, W. N., 2.

——. Post-Glacial Uplift. 1918. —Fairchild, H. L., 4 & 5.

——. Rocky Mountains, 49th Parallel (*various*). 1912.—Daly, R. A., 1.

——. Triassic areas in Eastern portion. 1 inch = 200 miles. 1916.—Powers, S., 7.

Canada. Building & Ornamental Stones (*various*). 1914–17.—Parks, W. A., 1.

——. Coal-fields (*various*).—1915. —Dowling, D. B., 5; 1913.—Pruvost, P., 3.

AMERICA (North).

Canada. Economic Minerals. 1 inch=100 miles.—McLeish, J., 6.

——. Gypsum deposits (*various*). 1913.—Cole, L. H., 1.

——. Iron ore occurrences (*various*). 1917.—Lindeman, E.

——. Mineral localities. 1 inch = 200 miles. 1914.—Fabrega, P.

——. Oil, Gas & Tar Sands. 1914. —Clapp, F. G., 4.

——. Peat-bogs (*various*). 1914. —Anrep, A., 1 & 2.

——. Platinum occurrences. 1 inch = 200 miles. 1919.—O'Neill, J. J., 5.

——. Pre-Cambrian Shield. 1914. —Collins, W. H., 1.

——. Saline Springs, Maritime Provs. 1 inch = 100 miles; Ontario–Michigan Salt Basin. 1 inch = 24 miles; Saline Springs, N. Manitoba. 1 inch = 12½ miles. 1915.—Cole, L. H., 2.

Alberta. Artesian Water area. 1 inch = 15 miles. 1916.—Dowling, D. B., 9.

——. Athabaska–Smoky R. dist. Coal area. 1 inch = 16 miles. 1917.—Dowling, D. B., 12.

——. Banff dist. Phosphate beds. 1 inch = 1½ mile. 1916.—Schmid, H. S. de.

——. Banff Hot Springs. 1 inch = 1 mile. 1917.—Satterly, J., 1.

——. Bituminous sand outcrops. 1 inch = 12½ miles. 1914.—Ells, S. C., 1.

——. Cretaceous Sea. 1915.—Dowling, D. B., 7.

——. Crowsnest Volcanic area. 1 inch = 10 miles. 1914.—MacKenzie, J. D., 1.

——. Foot-hills, St. Mary R.–Highwood R. 1 inch = 4 miles. 1919.—Stewart, J. S., 4.

——. Moose Mountain Region. 1 inch = 2 miles. 1914.—Cairnes, D. D., 1.

——. Mountain Park Coal area. 1 inch = about 2 miles. 1917.—Stewart, J. S., 3.

——. North Saskatchewan R., Edmonton to North Battleford. 1 inch = 20 miles. 1918.—Allan, J. A., 4.

——. Southern Oil-fields. 1916.—Dowling, D. B., 10.

——. Southern Plains. 1 inch = about 8 miles. 1917.—Dowling, D. B., 11.

——. Saskatchewan & Manitoba. 1 inch = 35 miles. 1914. —Dowling, D. B., 1.

British Columbia. Alice Arm dist. 1 cm. = 1 mile. 1919.—Clothier, G. A; 1917.—Turnbull, J. M.

AMERICA (North).

Canada

British Columbia. Atlin dist. Hydromagnesite deposits. 1 inch = 800 feet. 1916.—Young, G. A., 1; Rainy Hollow. 1 inch = 2 miles. 1914.—McConnell, R. G., 2.

——. Beaverdell area. 1 : 62,500 1915.—Reinecke, L., 1 & 2.

——. Bridge River area. 1 inch = 3 miles; Highland Valley Copper Camp. 1 inch = 4 miles. 1916.—Drysdale, C. W., 5.

——. Coal-fields. 1 inch = 35 miles. 1915.—Dowling, D. B., 6.

——. Copper Crown Group, Grouse Mt. 1 inch = 5 miles; Limonite deposit. Limonite Creek. 1 inch — about 600 feet. 1916.—MacKenzie, J. D., 8.

——. Cranbrook, Kootenay dist. 1 inch = 4 miles. 1915.—Schofield, S. J., 2.

——. Duncan River & Hall Creek, Ainsworth dist. 1 cm. = 2 miles. 1919.—Langley, A. G.

——. Field, Kootenay dist. 1 inch = 2 miles. 1914.—Allan, J. A., 1.

——. Flathead Coal Area, Kootenay dist. 1 : 62,500. 1916. —MacKenzie, J. D., 6.

——. Franklin Mining Camp. 1 : 24,000. 1915.—Drysdale, C. W., 2.

——. Graham I. 1 cm. = 3 miles. 1915.—Brewer, W. M., 3; 1 inch = 4 miles & Southern portion. 1 inch = 2 miles. 1916. —MacKenzie, J. D., 7.

——. Hazelton dist., Mineral areas. 3 inches = 5 miles; Mining Properties, head of Juniper Creek. 6 inches = 1 mile; Principal Veins on the Silver Standard Mine. 1 inch = 800 feet. 1919.—O'Neill, J. J., 4.

——. Kitsumgallum & Lakelse Lake dists. 1 cm. = 1 mile; Kitsalas & neighbourhood. 1 cm. = 1½ mile. 1915.—Brewer, W. M., 2.

——. Kyuquot Sound. Peninsula between Kokshittle Arm & Easy Creek. 1 inch = 1850 feet. 1914.—Clapp, C. H., 4.

——. Lardeau Mining Divn. (part). 1 cm. = 1 mile. 1915.—Emmens, N. W., 2.

——. Mastodon Group near Cascade. 1 inch = 1 mile. Olivine Mt. & Tulameen. 1 inch = 1 mile. 1918.—Freeland, P. B.

——. Mica-bearing District. 1 inch = 20 miles. 1914.—*See* Canada, 1.

AMERICA (North)

Canada.

British Colombia. Nelson dist. (part). 1 cm. = 2 miles. 1916.—Galloway, J. D., 7; 1 inch = 2½ miles. 1918.—Langley, A. G.

——. Portland Canal. 1 inch = 2 miles. 1919.—Clothier, G. A.

——. Revelstoke Mining Divn. 1 inch = 8 miles. 1918.—Langley, A. G.

——. Rossland Mining Camp. 1 : 14,400 & 1 : 4,800. 1915.—Drysdale, C. W., 3.

——. Shuswap Lake, Kamloops dist. 1 inch = 4 miles; Railway Belt between Golden & Revelstoke. 1 inch = 10 miles; Albert Canyon. 1 inch = 1½ mile; Prairie Hills & Dogarth Mts. 1 inch = 2½ miles; Glacier. 1 inch = 2 miles; Shuswap Terrane. 1 inch = 175 miles. 1915.—Daly, R. A., 4.

——. Slocan Mining area, Kootenay dist. 1 inch = 1 mile. 1917.—Drysdale, C. W., 7.

——. Texada I. 1 inch = 2 miles; Vananda, Texada I. 1 : 24,000; Prescott, Paxton & Lake Mines, Texada I. 1 : 4,800. 1914.—McConnell, R. G., 1.

——. Trout Lake Mining Divn. 1 cm. = 1 mile. 1915.—Emmens, N. W., 4.

——. Vancouver. Nanaimo area. 1 : 62,500. 1914.—Clapp, C. H., 2.

——. ——. Quadra I. (Lime belt). 1 inch = 4 miles. 1914.—Cairnes, D. D., 4.

——. ——. Sooke Sheet. 1 inch = 2 miles; Duncan Sheet. 1 inch = 2 miles; East Sooke Peninsula. 1 inch = 2,000 feet. 1917.—Clapp, C. H., 7.

——. ——. Victoria & Saanish areas. 1 : 62,500. 1913.—Clapp, C. H., 1.

——. Ymir, Kootenay dist. 1 inch = 1 mile. 1917.—Drysdale, C. W., 6.

—— & Yukon Terr. Triassic localities. 1 inch = 320 miles. 1916.—Martin, G. C., 1.

Hudson Bay. Belcher Is. (Iron Formation). 1 inch = 12 miles. 1918.—Moore, E. S., 5.

——. Region S.W. of Hudson Bay. 1 inch = 40 miles. 1915.—Parks, W. A., 2.

Magdalen Is., Gulf of St. Lawrence 1 inch = 14 miles; St. Lawrence submerged Coastal Plain. 1915.—Goldthwait, J. W., 3.

Manitoba. Big Clearwater Lake (Gold-bearing deposits). 1 inch = ¾ mile. 1917.—Dresser, J.A., 4.

AMERICA (North)

Canada.

Manitoba. Schist Lake dist. 1 inch = 2 miles; Wekusko Lake. 1 inch = 2 miles. 1917.—Bruce, E. L., 6.

—— & Saskatchewan. Churchill & Nelson River Basins. 1 inch = 16 miles; Northern end of Lake Agassiz. 1 inch = 35 miles. 1913.—McInnes, W.

New Brunswick. Albert Mines Oil-shales area. 1 inch = 400 feet. 1914.—Wright, W. J., 1.

——. York Co. Tungsten & Galena deposits. 1 inch = 24 miles. 1917.—Cairnes, D. D., 9; Burnthill Brook Tungsten area. 1 inch = 4 miles. 1918.—Young, G. A., 2.

North-West Provinces. Mackenzie River Basin. 1 inch = 50 miles. 1919.—Camsell, C., 13.

——. Tazin, Taltson, Slave & Peace Rivers. 1 inch = 8 miles. 1916.—Camsell, C., 3.

Nova Scotia. Arisaig. 1 inch = ¾ mile; Arisaig–Antigonish dist. 1 inch = 2 miles. 1914.—Williams, M. Y., 1.

——. Cape Breton Island. 1 cm. = 10 miles. 1871.—Brown, R.

——. Cape d'Or Region. 1 inch = 2 miles. 1917.—Powers, S., 14.

——. Chimney Corner & St. Rose Coal areas. 1 inch = 2 miles. 1919.—Hayes, A. O., 4.

——. Loon Lake I., Liverpool R. (Infusorial Earth deposits). 1 inch = 500 feet. 1916.—Faribault, E. R., 4.

——. Piedmont, Picton Co. (Iron ore). 1 inch = 60 feet. 1917.—Hayes, A. O., 3.

——. Pleasant River Barrens Gold dist. 1 : 6,000. 1913.—Faribault, E. R., 2.

——. Shelburne Co. (part). 1 inch = 7 miles. 1915.—Powers, S., 3.

——. Stirling Zinc–Copper–Lead deposits. 1 inch = 15 miles. 1917.—Cairnes, D. D., 9.

——. Triassic areas. 1 inch = 30 miles. 1916.—Powers, S., 7.

——. Victoria Co. Franey Mine & neighbourhood. 1 inch = 1,500 feet. 1914.—Wright, W. J., 2.

—— & New Brunswick. Coal-fields. 1 inch = 35 miles. 1917.—Brown, J. F. K.; Gray, F. W.

Ontario. Abitibi Lake area. 1 inch = 7 miles. 1918.—Hopkins, P. E., 5.

——. Abitibi—Night-Hawk Gold area. 1 inch = 2 miles. 1919.—Knight, C. W., 3.

AMERICA (North).

Canada.

Ontario. Alexo Nickel Mine & neighbourhood. 1 inch = 1 mile. 1917.—Baker, M. B., 2.

——. Beatty–Munro Gold area. 1 inch = 1 mile. 1915.—Hopkins, P. E., 1.

——. Carlsbad Springs. 1917.—Satterly, J., 1.

——. Corundum-bearing Rocks. 1 inch = 18 miles; Craig Mine, Raglan Township. 1 inch = 800 feet. 1915.—Barlow, A. E.

——. Corundum–Syenite dist., Craigmont. 1916.—Foye, W. G., 3.

——. Devonian fossil localities. 1 inch = 27 miles. 1916.—Foerste, A. F., 1.

——. Dryden Gold area. 1 inch = 2 miles. 1917.—Thomson, E., 2.

——. Espanola area, Sudbury dist. 1 inch = 1 mile. 1917.—Quirke, T. T., 1.

——. Gauthier Township. 1 inch = 1 mile. 1917.—Burrows, A. G., 3.

——. Geological Sketch-map. 1 inch = 275 miles. 1915.—Miller, W. G., 3.

——. Glamorgan Township. 3 inches = 4 miles. 1916.—Foye, W. G., 2.

——. Gooderham dist. (Laccolites). 1 inch = 1 mile. 1915.—Foye, W. G., 1.

——. Interglacial beds. 1 inch = 200 miles. 1915.—Coleman, A. P. 2.

——. Kent Co. Bothwell–Thamesville Oil Region. 1 inch = $1\frac{1}{8}$ mile. 1918.—Williams, M. Y., 9.

——. Kirkland Lake & Swastika Gold areas. 1 : 47,520. 1914.—Burrows, A. G., 5.

——. Kowkash Gold area. 1 inch = 2 miles. Hopkins, P. E., 2.

——. Lake Algonquin & Lake Iroquois. 1 inch = 6 miles. 1916.—Johnston, W. A., 3.

——. Lake Huron, North Shore. 1 inch = 20 miles. 1916.—Collins, W. H., 4.

——. Lake Iroquois. 1 inch = 120 miles; Champlain Sea. 1 inch = 120 miles; Kingston–Napanee dist. 1 inch = 8 miles. 1917.—Mather, K. F., 2.

——. Lake Timiskaming. 1 inch = 4 miles. 1917.—Hume, G. S.; 1915.—Williams, M. Y., 3.

——. Lanark Co. Graphite deposits, N. Elmsley Township. 1 inch = 140 feet. 1918.—Wilson, M. E., 8.

——. Larder Lake Mineral area. 1 inch = 1 mile. 1919.—Hopkins, P. E., 6.

AMERICA (North).

Canada.

Ontario. Long Lake Gold Mine & neighbourhood. 1 inch = 1 mile, & 1 : 7,920. 1917.—Baker, M. B., 1.

——. Maisonville, Grenfell & Eby Townships. 1 : 47,520. 1914.—Burrows, A. G., 5.

——. Matachewan Gold area. 1 : 47,520. 1918.—Burrows, A. A. G., 4.

——. Michipicoten Iron Ranges, Magpie–Goudreau area. 1 inch = 2 miles; Western area. 1 inch = 3 miles; Helen Mine area. 1 inch = 2 miles. 1915.—Parsons, A. L., 1.

——. Mine Centre, Iron & Copper deposits. 1 inch = 1 mile. 1918.—Parsons, A. L., 5.

——. Molybdenum deposits. 1 inch = 35 miles. 1917.—Parsons, A. L., 3.

——. Ogahalla–Collins Region. 1 inch = 4 miles. 1918.—Hopkins, P. E., 4.

——. Onaping, Sudbury & Timiskaming dists. 1 inch = 4 miles; Asquith & Churchill Townships, Sudbury dist. 1 inch = 1 mile. 1917.—Collins, W. H., 6.

——. Ontario Peninsula. 1 inch = 12 miles; Niagara Peninsula. 1 inch = 4 miles. 1919.—Williams, M. Y., 11.

——. Ottawa. 1 inch = 1 mile. 1917.—Johnston, W. A., 8.

——. Ottawa–Prescott area. Stone & Gravel deposits. 1 inch = 2 miles. 1917.—Reinecke, L., 7.

——. Powell Township. 5 inches = 8 miles; Gold District. 2 inches = 1 mile. 1919.—Cooke, H. C., 6.

——. Pre-Cambrian Formations N. of Lake Huron. 1 inch = 10 miles. 1914.—Coleman, A. P., 1.

——. Pyrite deposits. 1 inch = 21 miles. 1917.—Hopkins, P. E., 3.

——. Rainy River dist. (S.W. part). 1 inch = 2 miles. 1915.—Johnston, W. A., 2; Seine Bay titaniferous Iron Range. 1 inch = $1\frac{1}{4}$ mile. *See* Canada, 18.

——. Road-metal deposits. 1 inch = 4 miles. 1916.—Reinecke, L., 4.

——. Sand & Gravel producing areas (*various*). 1918.—Ledoux, A., 9.

——. Slate Is., Lake Superior. 1 inch = $1\frac{1}{2}$ mile. 1918.—Parsons, A. L., 4.

——. South-Western area. 1 inch = 12 miles. 1915.—Stauffer, C. R., 1.

AMERICA (NORTH).
CANADA.
ONTARIO. South-Western Oil-fields. 1 inch = 4 miles. 1919.—Williams, M. Y., 12.
——. Sudbury Region. 1 inch = 7 miles. 1916.—Knight, C. W., 2; & Tolman, C. F., *fil.*, 5; 1 inch = 10 miles & Nickel–Copper deposit, W. Falconbridge Township. 1 inch = 2,500 feet. 1918.—Roberts, H. M.; Worthington Mine & vicinity. 2 inches = 1 mile. 1915.—Walker, T. L., 1.
——. Tashkota, N.T.C. Ry. & vicinity. 1 inch = ¾ mile. 1917.—Hopkins, P. E., 2.
——. Thunder Bay dist. 1 inch = 2 miles. 1917.—Burrows, A.G., 1.
——. Toronto Region (Ancient Shore-lines). 1 inch = 3 miles. 1917.—Coleman, A. P., 8; 2 cm. = 3 miles. 1917.—Spencer, J. W., 3.
——. Wanapitei River Basin. 1 inch = 1 mile. 1914.—Collins, W. H., 2.
——. Whiskey Lake Copper-bearing area. 1 inch = 1¾ mile; Howry Creek Gold-bearing area. 1 inch = 2½ miles. 1918.—Collins, W. H., 5.
—— & QUEBEC. Mineral Springs. 1917.—Satterly, J., 1.
—— ——. Peat-bogs. 1 inch = 8 miles. 1914.—Haanel, B. F., 1.
QUEBEC. 1 inch = 35 miles. 1915.—Keele, J., 2.
——. Amherst Township, Labelle Co. 1 inch = 1,700 feet; Kaolin deposits. 1 inch = 200 feet. 1919.—Wilson, M. E., 5 & 10.
——. Coleraine, Megantic & Wolfe Cos. 1 inch = 1 mile. 1917.—Knox, J. K.
——. Coleraine Township, Megantic Co. 1 inch = 1¼ mile. 1918.—Poitevin, E., 2.
——. Grenville Township, Argenteuil Co. (Magnesite outcrops). 1 inch = 60 feet & 1 inch = 200 feet. 1917.—Wilson, M.E., 4 & 5.
——. Grenville-Hall area (Road-metal). 1 inch = 2 miles. 1917.—Reinecke, L., 7.
——. Harricanaw–Turgeon Basin. 1 inch = 4 miles; Kienawisik Gold dist. ¾ inch = 1 mile. 1919.—Tanton, T. L., 5.
——. Montebello Escarpment. 1 inch = 1 mile; Laurentian Plateau. 1 inch = 130 miles. 1915.—Kindle, E. M., 15.
——. Montreal City (Artesian Wells). 2 inches = 1 mile. 1915.—Cumming, C. L.

AMERICA (NORTH).
CANADA.
QUEBEC. Montreal City & District (Road-metal). 3½ inches = 4 miles. 1919.—Gauthier, H., 2.
——. Montreal Island. 1 inch = 1⅛ mile; City of Montreal. 2½ inches = 1 mile. 1915.—Stansfield, J., 2.
——. Natashkwan Magnetic Iron-sand deposits, Saguenay Co. 1 inch = 1,200 feet. 1914.—*See* CANADA, 1.
——. Ordovician fossil localities. 1 inch = 33 miles. 1916.—Foerste, A. F., 1.
——. Roberval, Lake St. John Co. 1 inch = 2 miles. 1916.—Dresser, J. A., 2.
——. St. John–Saguenay dist. 1 inch = about 12 miles. 1916. Dresser, J. A., 3.
——. Timiskaming Co. 1 inch = 12 miles. 1918.—Wilson, M. E., 6.
SASKATCHEWAN. Gravel deposits near Regina. 1 inch = 4 miles. 1919.—Reinecke, L., 10.
——. Southern portion. 1 inch = 35 miles; White Clays near Eastend, Frenchman River. 1 : 96,000. 1918.—Davis, N. B., 3.
——. South-Eastern portion, Distribution of Soils. 1 inch = 25 miles. 1918.—Stansfield, J., 5.
——. Wood Mountain–Willowbunch Coal area. 1 inch = 4 miles. 1916.—Rose, B., 4.
YUKON TERR. Bonanza Creek (Meteorite falls). 1 inch = 2 miles. 1915.—Johnston, R. A. A., 2.
——. Mayo area. 1 inch = 8½ miles; Wheaton dist. 1 inch = 4 miles. 1916.—Cairnes, D. D., 7.
——. Scheelite-bearing area, Dublin Gulch, Mayo dist. 1 inch = 8½ miles. 1917.—Cairnes, D.D., 8.
——. Scroggie, Barker, Thistle & Kirkman Creeks. 1 inch = 4 miles. 1917.—Cairnes, D. D., 10.
——. South-West portion. 1 inch = 20 miles. 1915.—Cairnes, D. D., 6.
——. Upper White River dist. 1 : 250,000. 1915.—Cairnes, D. D., 5.
——. Yukon–Alaska International Boundary. 1 : 125,000. 1914.—Cairnes, D. D., 2.
NEWFOUNDLAND. Conception Bay. 1 inch = about 3 miles. 1916.—Buddington, A. F., 1.
——. Conception Bay. 1 inch = 5 miles; Bell I. 1 inch = 3,250 feet. 1915.—Hayes, A. O., 2.

AMERICA (North).

Newfoundland. Manganese localities. 1 inch = 12 miles. 1915.—Dale, N. C.

——. Mineral deposits (*various*). 1896.—*See* Great Britain, 2.

——. South-Eastern portion (Geology & Submarine Topography). 1919.—Buddington, A. F., 2.

United States. Atlantic & Gulf Coastal Plain (Cretaceous–Eocene Contact). 1 : 7,000,000. 1915.—Stephenson, L. W., 2.

——. Basins of Salt & Gypsum deposition. 1915.—Branson, E. B., 2.

——. Coal, Petroleum & Natural Gas resources. 1919.—Gilbert, C. G., 5.

——. Coal-fields. 1 : 17,000,000. 1917.—Erskine, J. Y.; (*various*). 1911.—Gruner, E.

——. Deflection of the Vertical & Distribution of Seismicity. 1 cm. = 90 miles. 1916.—Hobbs, W. H., 2.

——. Devonian Period. 1917.—Grabau, A. W., 6.

——. Dust-fall of March 9, 1918. 1918.—Winchell, A. N., 2.

——. Morrison Formation. 1 cm. = 25 miles. 1916.—Mook, C. C., 4.

——. Physiographic subdivisions. 1917.—Fenneman, N. M.

——. Relation of Lead & Zinc deposits to Uplifts & Marginal Slopes. 1 inch = 180 miles. 1915.—Siebenthal, C. E., 2.

——. Rocky Mountains, Central Region (*various*). 1917.—Tomlinson, C. W., 3.

——. Slate deposits. 1 inch = 320 miles. 1914.—Dale, T. N., 3.

——. Southern Rocky Mountains (Jurassic Rocks). 1918.—Lee, W. T., 5.

——. South-Western Copper Regions. 1 inch = 150 miles. 1919.—Tovote, W.

——. Tertiary Provinces W. of Wasatch Range. 1916.—Merriam, J. C., 7.

——. Western Interior Geosyncline. 1 inch = 100 miles. 1917.—Van Tuyl, F. M., 9.

——. Western Red Beds. 1 inch = 500 miles. 1916.—Tomlinson, C. W., 1.

——. Western Tertiary Seas. 1918.—Clark, B. L., 6.

—— (Eastern). Coal, Oil & Gas fields. 1915.—White, D., 2.

—— (—). Rutile deposits. 1 inch = 160 miles. 1914.—Watson, T. L., 1.

AMERICA (North).

United States & W. Canada. Geological Structure of Dakota Sand. 1916.—Huntley, L. G., 3.

Alabama. Crystalline Marbles. 1 inch = 5 miles. 1916.—Prouty, W. F.

——. Possible Oil & Gas fields. 1918.—Hager, D., 4.

Alaska. Antimony deposits. 1 : 5,000,000; Mineral Resources of Fairbanks dist. 3 inches = 10 miles. 1916.—Brooks, A. H., 2.

——. Broad Pass Region. 1 : 250,000. 1915.—Moffit, F. H., 2.

——. Cantwell Formation. 1 inch = 20 miles. 1915.—Pogue, J. E., 1.

——. Chisana–White River dist. 1 : 250,000. 1916.—Capps, S. R., 6.

——. Ellamar dist., Prince William Sound. 1 : 62,500. 1915.—Capps, S. R., 7.

——. Fortymile, Circle, Fairbanks & Rampart Quadrangles. 1 : 250,000. 1915.—Ellsworth, C. E., 1.

——. Hanagita–Bremner Region. 1 : 250,000. 1914.—Moffit, F. H., 1.

——. Iditarod–Ruby Region. 1 : 250,000. 1914.—Eakin, H. M.

——. Kenai Peninsula. 1 : 250,000. 1915.—Martin, G. C., 2.

——. Kitchikan & Wrangell Mining dists. 1 : 1,000,000; Copper Mt. & neighbourhood. 1 : 62,500; Kasaan Peninsula. 1 : 62,500. 1915.—Wright, C. W.

——. Mineral deposits. 1 : 5,000,000. 1914.—Brooks, A. H., 5.

——. Mineral Resources (*various*). 1915.—Brooks, A. H., 6.

——. Region affected by Katmai Eruption & Ash-fall. 1 inch = 60 miles. 1914.—Buttram, F., 1.

——. Triassic Faunas. 1 inch = 225 miles. 1916.—Martin, G. C., 1.

——. Willow Creek dist. 1 : 62,500. 1915.—Capps, S. R., 1.

——. Yukon River Basin. 1 inch = 150 miles. 1915.—Capps, S. R., 5; 1 inch = 350 miles. 1914.—Porter, E. A., 1.

Appalachian Mts. Newark Trias. 1 : 20,000,000. 1915.—Lebling, C.

——. Oil-fields. 1917.—Fuller, M. L., 1; 1 inch = 16 miles. 1917.—Reger, D. B.

—— States. Barite deposits (*various*). 1916.—Watson, T. L., 6.

AMERICA (North).

United States.

Appalachian States (Southern). Clay Mines. 1 inch = 160 miles. 1916.—Watkins, J. H.

Arizona. Asbestos Mines. 1 inch = 125 miles. 1916.—Diller, J. S., 4.

——. Carrizo Mt. (Igneous Rocks) 1 inch = 5 miles. 1916.—Emery, W. B., 1.

——. Clifton Quadrangle. 3 cm. = 4 miles. 1916.—Reber, L. E., *fil.*

——. Kofa Mts. 1 inch = 2 miles. 1915.—Jones, E. L., 2.

——. Little Colorado Valley. 1 inch = 4 miles. 1914.—Gregory, H. E., 1.

——. Mazatzal Range. 1 inch = 22 miles. 1915.—Ransome, F. L., 1.

——. Meteor Crater. 1 inch = 1,290 feet. 1914.—Barringer, D. M.

——. Mohave Co. 1 inch = 16 miles. 1917.—Schrader, F. C., 5.

——. Mule Mts. 1 inch = 4½ miles; Warren Mining dist. 1 inch = 1,880 feet. 1917.—Bonillas, Y. S.

——. Paradise Valley & Cave Creek Drainage Basins. 1 : 187,500. 1915.—Meinzer, O. E., 6.

——. Quartzite. Gold Placers. 1 inch = 3 miles. 1915.—Jones, E. L., 1.

——. Santa Rita & Patagonia Mts. 1 : 125,000. 1915.—Schrader, F. C., 3.

——. Shinumo Quadrangle. 1 : 48,000. 1914.—Noble, L. F., 1.

——. Tonto Region. 1 inch = 2 miles. 1916.—Ransome, L. F., 3.

Arkansas & Oklahoma. Fort Smith–Poteau Gas-field. 1 inch = 5½ miles. 1914.—Smith, C. D., 1.

California. Alameda Creek Drainage Basin. 1 : 250,000; Niles Cone & adjacent areas. 1 : 31,250. 1915.—Clark, W. O.

——. Alleghany dist. 1 inch = 2½ miles. 1914.—Ferguson, H. G., 1.

——. Barstow–Keamer Region. 1 inch = 4 miles. 1914.—Pack, R. W., 1.

——. Bully Hill Mining dist. 2 inches = 1 mile. 1915.—Boyle, A. C., *fil.*

——. Chico & Eocene Formations. 1 inch = 115 miles. 1917.—Waring, C. A.

——. Colfax Region. 2 inches = 3 miles. 1917.—Moody, C. L., 2.

——. Cuyama Valley. 1 : 125,000. 1916.—English, W. A., 2.

AMERICA (North).

United States.

California. Eocene deposits N. of Mt. Diablo. 1918.—Clark, B. L., 4.

——. Lassen Peak. 1 inch = 1,075 feet. 1916.—Diller, J. S., 2.

——. Leona Rhyolite & adjacent Formations. 1 inch = 1 mile. 1917.—Clark, C. W.

——. Owens–Searles–Panamint Lake System. 1 inch = 32 miles. 1914.—Gale, H. S., 1.

——. Pacific Coast & Basin Regions (Tertiary Faunas). 1915. —Merriam, J. C., 6.

——. Sacramento Valley. 1 inch = 22 miles. 1915.—Bryan, K.

——. San Diego Co. (Molybdenum) 1 inch = 2¾ miles; Friday Mine. 1 inch = 100 feet. 1916.—Calkins, F. C., 1.

——. San Joaquin Valley. 1 : 500,000. 1916.—Mendenhall, W. C.; Oil-fields, West side. 1 inch = 1 mile. 1917.—Gester, G. C.; Tejon Group. 1 inch = 8 miles. 1915.—Dickerson, R. E., 5; Western border. 1 : 125,000. 1915.—Anderson, R.

——. San Pablo & portion of Monterey Groups, San Pablo Bay Region. 1915.—Clark, B. L., 1.

——. Santa Ana Mts. (part). 1 inch = 2 miles. 1914.—Dickerson, R. E., 1; 1916.—Packard, E. L., 1.

——. Santa Ynez River dist. (part). 3 inches = 4 miles. 1919. —Kew, W. S. W., 3.

——. Sobrante Anticline; Vicinity of Walnut Creek. 1918.—Clark, B. L., 5.

——. Southern portion (Lavas). 1 inch = 30 miles; Morro Hill. 2 inches = 1 mile. 1917.—Waring, G. A., 2.

——. Springs & principal Faults. 1 : 2,000,000. 1915.—Waring, G. A., 1.

——. Tejon & associated Groups (*various*). 1916.—Dickerson, R. E., 6.

——. Tejon & Martinez Seas. 1917.—Dickerson, R. E., 10.

—. Temblor Basin & San Juan dist. 1 inch = 2 miles. 1914.—Anderson, F. M.

——. Tesla Quadrangle (part). 1 : 125,000. 1915.—Anderson, R.

——. Waltham, Priest, Bitterwater & Peachtree Valleys. 1 inch = 80 miles. 1914.—Pack, R. W., 4.

——. Weaverville Quadrangle. 1 inch = 4 miles. 1915.—Ferguson, H. G., 2.

AMERICA (North)

United States.

Colorado. Central City & vicinity (Ore-veins). 2½ inches = 1 mile. 1915.—Bastin, E. S., 1.

——. Geological Survey. Castle Rock Quadrangle. 1 : 125,000. 1915.

——. Golden & neighbourhood. 1 inch = 2 miles; Boulder. 1 inch = 1 mile. 1917.—Ziegler, V., 1.

——. Montrose Quadrangle, S.W. part (Glacial deposits). 1 : 125,000. 1915.—Atwood, W. W., 1.

——. North Park. 1 : 125,000. 1915.—Beekly, A. L.

——. Piedra Valley (Drainage). 1 inch = 5½ miles. 1914.—Cross, W., 3.

——. Reclamation of Desert. 1 : 1,000,000. 1915.—Sykes, G.

——. Relations of Dakota Group to Rocky Mountain Ranges. 1 inch = 50 miles; Coal-fields, Southern Rocky Mountains Region. 1 inch = 75 miles. 1915.—Lee, W. T., 2.

——. Rocky Mountains. 1 inch = 100 miles; Lyons–Grand River Section. 1 inch = 30 miles. 1919.—Chamberlin, R. T., 3.

——. Yampa R. Valley. 1 inch = 9 miles. 1915.—Hancock, E. T.

Connecticut. Central portion. 1 inch = 4½ miles. 1915.—Barrell, J., 3.

——. Connecticut Valley (Triassic area). 1 : 250,000; Vicinity of Turners Falls & South Hadley. 1 : 62,500. 1915.—Lull, R. S., 3.

——. Hartford, Stamford, Salisbury, Willimantic & Saybrook areas. 1:62,500. 1916.—Gregory, H. H. E., 10.

——. Waterbury area. 1 : 62,500. 1916.—Ellis, A. J.

Florida. 1 : 1,000,000. 1915.—Matson, G. C., 1.

——. Canals in the Everglades. 1 inch = 32 miles. 1914.—Stevens, G. C.

——. Comanchean Formation. 1 inch = 80 miles. 1919.—Sellards, E. H., 9.

——. Marine Formations. 1 inch = 50 miles; Structural conditions. 1 inch = 75 miles. 1919.—Sellards, E. H., 11.

——. Quaternary beds at Vero. 1 inch = 230 feet. 1917.—Chamberlin, R. T., 2.

Georgia. 1 inch = 70 miles. 1919.—McCallie, S. W.

——. Coastal Plain. 1 : 1,000,000. 1915.—Stephenson, L. W., 4.

AMERICA (North)

United States.

Idaho. Boise Basin. 1 inch = 4 miles. 1916.—Jones, E. L., 4.

——. Nitrate-field near Homedale 1 inch = 3½ miles. 1915.—Mansfield, G. R., 1.

——. Orofino Coal-field. 1 inch = 3 miles. 1915.—Lupton, C. T., 2.

——. Phosphate deposits N.E. of Georgetown (*various*). 1914.—Richards, R. W.

——. River Surveys. Snake & Bear River Basins. 1 : 31,680. 1914.—Marshall, R. B., 2 & 5.

——. Sawtooth Quadrangle. 1 inch = 4 miles. 1914.—Umpleby, J. B., 1.

——. Teton Basin Coal-field. 1 : 62,500. 1914.—Woodruff, E. G., 1.

Illinois. Birds Quadrangle. 1 : 62,500; Barnegat Inlet & Bay. 1 inch = 2 miles; Birdspool Sand. 3 inches = 2 miles. 1916.—Rich, J. L., 3.

——. Bremen Anticline. 3 inches = 2 miles. 1916.—Kay, F. H., 3.

——. Canton & Avon Quadrangles. 1 : 62,500. 1916.—Savage, T. E., 2 & 5.

——. Carlinville Oil-field. 2 inches = 1 mile. 1915.—Kay, F. H., 1.

——. Cheltenham Clay outcrop. 1 inch = 60 miles. 1917.—Lines, E. H.

——. Clays. 1 inch = 56 miles. 1917.—Stull, R. T.

——. Coal classification Districts. 1914.—Parr, S. W., 1.

——. Colchester & Macomb Quadrangles. 1 inch = 1½ mile. 1917.—Hinds, H., 1 & 2.

——. Deep Borings. 1 inch = 50 miles. 1914.—Udden, J. A., 2.

——. Distribution of Calcium Carbonate in Coal. 1 inch = 32 miles. 1916.—Parr, S. W., 3.

——. Galena & Elizabeth Quadrangles. 1 : 62,500. 1916.—Trowbridge, A. C., 3.

——. Geological Survey. Belleville & Breese Quadrangles. 1 : 62,500. 1915.

——. Gillespie & Mount Olive Quadrangles. 1917.—Lee, W.

——. Harden, Pope & Saline Cos. (parts). 1 inch = 1 mile. 1917.—Butts, C., 3.

——. Franklin & Williamson Cos. (Coal-bearing Rocks). 1 inch = 4 miles. 1916.—Cady, G. H., 4.

——. La Salle & Hennepin Quadrangles. 1917.—Cady, G. H., 2.

——. Lake Michigan (Post-Glacial Beaches). 1 inch = 8 miles. 1918.—Wright, G. F.

AMERICA (North).

United States.

Illinois. Longwall dist. (Coal outcrops &c.). 1 inch = 4 miles. 1915.—Cady, G. H., 3.

——. Mineral Resources. 1 inch = 70 miles. 1916.—Skewes, H. J.

——. Oil-fields (*various*). Blatchley, R. S., 1; Kay, F. H., 4; Wheeler, H. A.

——. Pecatonica Flats, Rochford Quadrangle. 1 : 62,500; Area about Camp Grant. 1 inch = 1¼ mile; Edge of Wisconsin Ice-sheet. 1 inch = 20 miles. 1918.—Salisbury, R. D., 2.

——. Saline, Williamson, Pope & Johnson Cos. (parts). 3 inches = 4 miles. 1917.—Brokaw, A. D., 2.

——. South-western portion. Coal-bearing Rocks. 1 inch = 4 miles. 1915.—White, K. D.; Oil-fields. 1 inch = 4 miles; & Carlyle Oil-field. 4 inches = 1 mile. 1915.—Shaw, E. W., 3.

——. Springfield Quadrangle. 1 inch = 1 mile. 1915.—Savage, T. E., 1.

——. Upper Illinois Valley. 1 inch = 5 miles. 1916.—Sauer, C. O.

——. Vermilion Co. (Coal-bearing Rocks). 1 inch = 3 miles. 1915.—Kay, F. H., 6.

——. Vincennes Quadrangle. 1 : 62,500; Oil pools, various Sites. 1 inch = 1 mile. 1916.—Rich, J. L., 4.

——. West Frankfort & neighbourhood; Lake Muddy. 1 inch = 10 miles; Beaucoup Creek. 1 inch = 4 miles. 1915.—Shaw, E. W., 4

—— Williamson, Jackson & Union Cos. (parts); Ava area; Centralia area. 3 inches = 4 miles. 1917.—St. Clair, S.

Indiana & Michigan. Pleistocene Lakes (*various*). 1915.—Leverett, F., 4.

Iowa. Coal-producing areas. 1 inch = 40 miles (*approx.*). 1914.—Hixson, W. A.

——. Distribution of Extinct Mammalia. 1 inch = 40 miles. 1914.—Hay, O. P., 1.

——. Drift deposits (*various*). 1917.—Alden, W. C.; 1914.—Beyer, S. W.

——. Fairfax Quadrangle. 1916.—Leighton, M. M.

——. Geology & Hydrography (*various*). 1916.—Lees, J. H.

——. Iron Hill & neighbourhood. 1916.—Howell, J. V.

——. North-Central (Devonian). 1 cm. = 3 miles. 1919.—Fenton, C. L.

AMERICA (North).

United States.

Iowa. North-Western (Pleistocene deposits). 1 inch = 4 miles. 1917.—Carman, J. E.

Kansas. Eastern portion (Glacial Boulders). 1916.—Twenhofel, W. H., 4.

——. Interval between Fort Scott Limestone & Boone Chert. 1918.—Berger, W. R., 1.

——. Oil & Gas fields. 1 inch = 65 miles. 1917.—Gardner, J. H., 3; 1918.—Wright, P.

Kentucky. Mammoth Cave. 1 cm. = 20 metres. 1914.—Martel, E. A., 2.

——. Oil & Gas fields. 1 inch = 60 miles. 1916.—Fohs, F. J.

——. Right Middle Creek (River migration). 2 cm. = 3 miles. 1919.—Jillson, W. R., 3.

—— & Virginia. Pound Quadrangle. 1 : 62,500. 1914.—Butts, C., 1.

Louisiana. Bossier, Caddo & Webster Parishes (Limonite deposits). 1 inch = 14 miles. 1915.—Burchard, E. F., 2.

——. Caddo Oil-field. 2 inches = 1 mile. 1916.—Matson, G. C., 2.

——. Loess belt. 1 cm. = 50 miles. 1918.—Emerson, F. V.

——. Oil-boring Sites, Belle Isle. 1 inch = 1,800 feet. 1918.—Lucas, A. F.

——. Salt deposits. 1916.—Norton, E. G.

Maine. Aroostook Co. (Volcanic area). 1 inch = 9 miles. 1916.—Williams, H. S., 2.

——. South-Western portion. 1 : 375,000. 1917.—Katz, F. J., 5.

——. Waterville area. 1 inch = 1·6 mile. 1917.—Little, H. P., 2.

Maryland. Areas of Serpentine Rock. 1919.—Singewald, J. T., *fil.*, 1.

Massachusetts. Massachusetts Bay. 1914.—Bigelow, H. B., 1.

Michigan. Gogebic Iron Range, Eastern end. 1 inch = 10 miles; Animiki Iron Formation. 1 inch = 15 miles. 1915.—Allen, R. C.

Minnesota. Clay materials. 1 inch = 32 miles. 1914.—Grout, F. F., 10.

——. Cuyuna dist. (Iron-bearing Formation). 1 inch = 2 miles & 1 inch = 1 mile. 1918.—Harder, E. C., 3 & 5.

——. Duluth Gabbro (*various*). 1917–18.—Broderick, T. M., 2 & 3; Grout, F. F., 3, 4 & 7; 1919.—Nebel, M. L., 2.

——. Geological Survey. Minneapolis-St. Paul Sheets; White Bear Quadrangle; Anoka Quadrangle. 1 : 62,500. 1916.

AMERICA (North).
United States.

Minnesota. Mesabi Iron Range. 1917.—Wolff, J. F.

——. Minneapolis (Buried Rock-surface & pre-Glacial Valleys). 3 cm. = 2 miles. 1915.—Soper, E. K., 1.

——. Pigeon Point, Lake Superior. 4 cm. = 1 kilometre. 1917.—Daly, R. A., 10.

——. Surface Formations. 1 inch = 8 miles. 1915.—Leverett, F., 1.

——. Western end of Lake Superior (Keweenawan). 1 inch = 80 miles. 1918.—Grout, F. F., 2.

Mississippi. Florence Quadrangle (Catahoula Sandstone areas). 1 : 62,500. 1916.—Matson, G. C., 3.

——. Vicksburg–Jackson area. 1 : 125,000. 1916.—Hopkins, O. B., 2.

Missouri. Cherokee Formation (Thickness). 1 inch = 100 miles. 1917.—Van Tuyl, F. M., 9.

——. N.E. portion (Coal measures). 1 : 187,500. 1914.—Greene, F. C.

——. Ozark Uplift. 1 inch = 40 miles. 1916.—Bain, H. F., 3; 1915.—Siebenthal, C. E., 2.

——. St. François Co. (Disseminated-Lead dist.). 4 inches = 3 miles. 1915.—Guess, H. A.

——. Washington Co. (Barytes deposits & Dolomites). 1 inch = 3 miles. 1919.—Tarr, W. A., 7.

Montana. Big Sandy Coal-field, Chouteau Co. 1 : 125,000. 1914.—Bowen, C. F., 3.

——. Bighorn Coal seam. 3 cm. = 1 mile; Tullock Creek Coal seam. 1 cm. = 1 mile. 1914.—Rogers, G. S., 1.

——. Boulder Batholith & vicinity. 1 inch = 8 miles. 1916.—Billingsley, P., 2.

——. Butte dist. 1 inch = 3 miles; Distribution of Bozeman beds. 1 inch = 8 miles. 1916.—Atwood, W. W., 2.

——. Cleveland Coal-field, Blaine Co. 1 : 125,000. 1914.—Bowen, C. F., 2.

——. Coal & Lignite fields. 1 inch = 87½ miles. 1914.—Stebinger, E., 2.

——. Elliston Phosphate field. 1 inch = 1 mile. 1914.—Stone, R. W.

——. Geological Survey. Philipsburg Quadrangle. 1 : 125,000. 1915.

——. Glacier National Park. 1 : 125,000. 1914.—Campbell, M. R., 3.

AMERICA (North).
United States.

Montana. Helena & vicinity (Cambrian). 2¼ inches = 1 mile. 1916.—Walcott, C. D., 4.

——. Musselshell–Judith area. 1 : 500,000. 1914–15.—Bowen, C. F., 1 & 4.

——. North-Western portion (Glaciation). 1 inch = 50 miles. 1917.—Davis, W. M., 12.

——. Pine Ridge Coal-field. 1 inch = 1 mile; Area S.W. of Custer, Yellowstone & Bighorn Cos. 1 : 125,000. 1914.—Rogers, G. S., 1.

——. River Surveys. Clark Fork of Columbia R.; Missouri R. from Great Falls to Three Forks. 1 : 31,680. 1914.—Marshall, R. B., 1 & 7; Upper Silver Bow Basin. 1 : 62,500. 1914.—Meinzer, O. E., 2.

——. Sheridan Co., Area near Scobey; & Area near Plentywood. 1 : 125,000. 1914.—Bauer, C. M., 1.

——. Teton Co. (Northern). 1 inch = 8 miles; Coal mesaures. 1 inch = 4 miles. 1916.—Stebinger, E., 3.

——. Three Forks area (Lombard Overthrust). 1 inch = 3 miles. 1916.—Haynes, W. P.

Nevada. Big Smoky Valley Shallow-Water areas. 1 inch = 4 miles. 1915.—Meinzer, O. E., 3.

——. Columbus Marsh. 1 inch = 2 miles. 1915.—Hicks, W. B., 1.

——. National Mining dist., Humboldt Co. 1¾ inch = 1 mile. 1915.—Lindgren, W., 1.

——. North-Western portion, Mining Districts (*various*). 1915.—Hill, J. M., 1.

——. Rochester dist. 1 : 24,000. 1914.—Schrader, F. C., 2.

——. Southern portion (Ground-water conditions). 1 : 500,000; Las Vegas Valley. 1 : 250,000. 1915.—Carpenter, E.

——. Truckee–Pyramid Drainage System. 1915.—Gale, H. S., 2.

——. West-Central portion. 1 inch = 4½ miles. 1914.—Buwalda, J. P., 2.

——. Yellow Pine Mining dist., Clark Co. 1 inch = 4½ miles. 1915.—Knopf, A., 1.

New Hampshire. Ammonoosuc Valley & White Mts. (Glaciation). 1 cm. = 1 mile. 1916.—Goldthwait, J. W., 5.

——. North-Eastern portion. 1 : 375,000. 1917.—Katz, F. J., 5.

New Jersey. Glauconite (Greensand) Belt. 1 inch = 30 miles. 1919.—Mansfield, G. R., 5.

AMERICA (North).

United States.

New Jersey. Pensauken Formation. 1917.—Salisbury, R. D., 1.

New Mexico. Baldy Peak & Aztec Mine. 1 inch = 1,860 feet. 1916. —Lee, W. T., 3.

——. Burro Mts. Copper dist. 1 inch = 2,800 feet. 1916.—Somers, R. E.

——. Gallup Basin. 2 inches = 1 mile. 1914.—Kirk, C. T., 1.

——. Geological Survey. Silver City Quadrangle. 1 : 125,000. 1916.

——. Luna Co. 1 inch = 3 miles. 1916.—Darton, N. H., 1.

——. Paleocene exposures. 1 inch = 12 miles. 1914.—Sinclair, W. J., 5.

——. San Juan Basin. 1 inch = 12 miles. 1917.—Granger, W., 2.

——. Sierra Blanca Coal-field. 1 inch = 5 miles; White Oaks dist. 1 : 62,500. 1914.—Wegemann, C. H., 1.

——. Tularosa Basin. 1 : 125,000. 1915.—Meinzer, O. E., 5.

New York. Adirondack Region (Strike of Foliation). 1916.—Miller, W. J., 3.

——. Building Stone (*various*). 1916.—Newland, D. H., 2.

——. Canton Quadrangle (part). 1 inch = 3 miles. 1915.—Chadwick, G. H., 1; Sigmoidal Flexure. 3 inches = 1 mile. 1916.—Martin, J. C.

——. Catskill Mts. (Glacial Striæ, &c.). 3 inches = 20 miles. 1915.—Rich, J. L., 1.

——. Crown Point Embayment. 1 : 62,500. 1916.—Barker, E. E.

——. Glacial modification of Drainage. 1918.—Hausman, L. A.

——. Glacial Waters, Central Adirondacks. 1 inch = 6 miles; Glacial Channels in Ausable Quadrangle. 1 inch = 1 mile. 1916.—Alling, H. L., 1.

——. Ithaca Region (Interglacial Gorges). 1 inch = 2 miles; Course of Lower Six Mile Creek. 1 inch = 800 feet. 1915.—Rich, J. L., 7.

——. Lake Placid Quadrangle. 3 inches = 4 miles. 1918.—Miller, W. J., 5.

——. Lyon Mt. & neighbourhood (Magnetic Iron-ores). 3 inches = 4 miles. 1919.—Miller, W. J., 6.

——. Pleistocene Uplift. 1 : 950,400. 1916.—Fairchild, H. L., 2.

——. Post-Glacial Submergence, Hudson & Connecticut River Valleys. 1 : 950,400. 1917.—Fairchild, H. L., 3.

AMERICA (North).

United States.

North Dakota. 1 cm. = 20 miles. 1919.—Leonard, A. G., 3.

——. Cannonball R. Lignite field (Western & Central parts). 1 : 125,000. 1914.—Lloyd, E. R., 1.

——. Margin of pre-Wisconsin Drift & Altamont Moraine. 1 inch = 60 miles. 1916.—Leonard, A. G., 2.

——. Pleistocene Valleys. 1 inch = 27 miles. 1916.—Leonard, A. G., 1.

——. White River Formation. 1 inch = 36 miles; Killdeer Mts. 1 inch = 1 mile. 1918.—Quirke, T. T., 3.

Ohio. Cadiz Quadrangle. 1 : 62,500. 1914.—Condit, D. D., 1.

——. Clinton Sand. 1 inch = 1½ mile. 1918.—Panyity, L. S.

——. Geological Survey. Columbus Quadrangle. 1 : 125,000. 1915.

——. Laurence, &c. Cos. (Coal & Pyrite areas). 1 inch = 12 miles. 1919.—Tucker, W. M.

——. Summerfield Quadrangle (Oil & Gas pools). 1 : 31,250 & 1 : 62,500. 1916.—Condit, D. D., 2.

——. Trenton Limestone Oil-field. 1917.—Bownocker, J. A.

——. Waverly Formation. 1 cm. = 7 miles. 1915.—Hyde, J. E., 2.

——. Woodsfield Quadrangle (Oil & Gas pools). 1 : 31,250 & 1 : 62,500. 1916.—Condit, D. D., 3.

——. Wooster Oil & Gas field. 1 inch = 2½ miles. 1915.—Bonine, C. A.

Oklahoma. Anticlinal Fold near Billings. 1 inch = 1¾ mile. 1916.—Fath, A. E., 2.

——. Cotton & Jefferson Cos. (part). 1 : 62,500. 1915.—Wegemann, C. H., 3.

——. Cushing Oil-field. 1 inch = 2,700 feet. 1914.—Buttram, F., 2.

——. Duncan Gas-field, Stephens Co. 1 inch = 1 mile. 1915.—Wegemann, C. H., 5.

——. Foraker Quadrangle. 1 : 62 500. 1916.—Heald, K. C.

——. Glenn Oil & Gas pool. 1 : 125,000. 1914.—Smith, C. D., 2.

——. Healdton Oil-field, Carter Co. 4 inches = 1 mile. 1915.—Wegemann, C. H., 9.

——. Healdton & Wheeler Oil pools. 3 inches = 4 miles. 1915.—Gardner, J. H., 2.

——. Hogshooter Gas Sand. 1919.—Berger, W. R., 2.

AMERICA (North).

United States.

Oklahoma. Lawton Oil & Gas field. 1 inch = 1 mile. 1915.—Wegemann, C. H., 10.

——. Loco Gas field. 1 inch = 1 mile. 1915.—Wegemann, C. H., 4.

——. Mineral Resources. 1914.—Shannon, C. W.

——. Neva Limestone outcrop. 1 inch = 2 miles. 1914.—Beede, J. W., 1.

——. Oil & Gas fields. 1 inch = 54 miles. 1917.—Gardner, J. H., 3.

——. Volcanic Dust deposits. 1914.—Buttram, F., 1.

—— & N. Texas. Oil and Gas pools. 1 : 5,000,000. 1915.—Wegemann, C. H., 3.

Oregon. Eden Ridge Coalfield, Coos Co. 1 inch = 1 mile. 1914.—Lesher, C. E., 1.

——. Formations & Mineral localities. 1919.—Smith, W. D., 8.

——. North-Western portion. 1 : 750,000. 1914.—Washburne, C. W. 1.

——. River Surveys (*various*). Deschutes River Basin; & Principal Rivers. 1914–15.—Henshaw, F. F., 4 & 5; Hood & Sandy Rivers; Williamette R.; John Day R.; Middle Fork of Willamette R. & White R.; & Umpqua R. 1914–15.—Marshall, R. B., 3, 4, & 10–12.

——. Satsop Formation. 1917.—Bretz, J. H.

——. Water-supply. 1 inch = 50 miles. 1914.—Van Winkle, W., 2.

Pennsylvania. Anthracite fields. 1917.—Crankshaw, H. M.

——. Appalachian Oil-fields. 1917.—Reeves, F.

——. Boyertown Quadrangle. 1 : 62,500. 1917.—Jonas, A. I.

——. Central & South Central portion. 1919.—Field, R. M., 2.

——. Gettysburg & neighbourhood (Triassic Igneous Rocks). 1 inch = 8 miles. 1916.—Stose, G. W.

——. Pittsburgh Coalfield. 1 inch = 16 miles. 1915.—Kuhn, H. A.

——. Susquehanna R. "Deeps." 1 inch = 1,000 & 1 inch = 1,200 feet. 1917.—Matthews, E. B.

—— & Missouri. Chestnut Ridge Disturbance. 1 inch = 100 miles. 1915.—Gardner, J. H., 1.

Rhode Island. 1 inch = 7 miles. 1918.—Hawkins, A. C., 2.

——. Coalfield. 1 inch = 5 miles. 1915.—Ashley, G. H., 2.

AMERICA (North).

United States.

Rhode Island. Diamond Hill–Cumberland Hill Region. 1 inch = 1½ mile. 1914.—Warren, C. H., 3.

——. Narragansett Basin. 1 inch = 10 miles. 1914.—Ashley, G. H., 1.

South Carolina. Original Distribution of Phosphate deposits. 1 inch = 10 miles. 1914.—Rogers, G. S., 2.

South Dakota. Harding & Perkins Cos. 1 : 125,000. 1916.—Winchester, D. E., 2.

Tennessee. Geological Survey. 1 : 500,000. 1915.

——. Western portion. 1 inch = 16 miles. 1918.—Dunbar, C. O., 2.

Texas. Anticlinal Structure N. of Palo Pinto. 1 inch = 2¾ miles. 1916.—Wegemann, C. H., 7.

——. Carbon Ratios. 1 inch = 40 miles. Fuller, M. L., 3.

——. Culberson Co. (Sulphur deposits). 1 inch = 22 miles. 1918.—Phillips, W. B., 4.

——. Hardeman Co. 1 inch = 2 miles. 1915.—Wegemann, C. H., 6.

——. Lasalle & McMullen Cos. 1 inch = 4½ miles. 1916.—Deussen, A., 2.

——. North-Eastern portion (Iron-ore dist.). 1 inch = 38 miles. 1915.—Burchard, E. F., 1.

——. Petrolia Gasfield. 1 : 18,000; Mexia–Groesbeck Gasfield. 1 : 36,000. 1916.—Shaw, E. W., 14.

——. Potash deposits. 1 inch = 50 miles. 1915.—Udden, J. A., 4.

——. Rio Grande Drainage Basin. 1 : 5,000,000. 1915.—Follansbee, R., 1.

——. South-Eastern portion. 1 : 1,500,000. 1914.—Deussen, A., 1.

Utah. Abajo Mts. 1 cm. = 1 mile. 1919.—Thorpe, M. R.

——. Alunite deposit near Marysvale. 4 cm. = 1 mile; Sheep Rock Quartz-alunite deposit near Beaver. 1 cm. = 300 feet. 1915.—Loughlin, G. F., 2.

——. Area S.E. of Green R., Grand Co. 1 inch = 1¾ mile. 1914.—Lupton, C. T., 1.

——. Canyon Range. 1 inch = 6 miles. 1914.—Loughlin, G. F., 1.

——. Coalville Coalfield. 1 : 62,500. 1915.—Wegemann, C. H., 2.

——. Cottonwood–American Fork Mining Region. 1 : 50,000. 1915.—Butler, B. S., 7.

AMERICA (North).
United States.
Utah. Emery & Sevier Cos. Castle Valley. 1 : 125,000; Emery Coalfield. 1 : 62,500. 1916.—Lupton, C. T., 4.
——. Gold Hill dist. (*various*). 1918.—Kemp, J. F., 5.
——. Green River dist. 1 inch = about $9\frac{1}{4}$ miles. 1918.—Emery, W. B., 2.
——. Intrusive Rocks. 1915.—Butler, B. S., 2.
——. Navajo Reservation (Erratics). 2 inches = 7 miles. 1915.—Gregory, H. E., 4; (Garnet deposits). 1 inch = 3 miles. 1916.—Gregory, H. E., 7.
——. Ozokerite field. 1 : 62,500. 1916.—Robinson, H. M.
——. Parowan Valley (Ancient drainage). 1918.—Johnson, D. W., 3.
——. Provo & Weber Rivers (River-piracy). 1 inch = 15 miles. 1915.—Anderson, G. E.
——. Thompson Coalfield, Grand Co. 2 inches = 1 mile. 1914.—Clark, F. R., 1.
——. Valley City "Graben." 1 inch = 2 miles. 1918.—Dake, C. L., 4.
——. Wales Coal-field, Sanpete Co. 1 : 62,500. 1914.—Clark, F. R., 2.
Vermont. Calcite, Marble & Dolomite localities. 1 : 750,000. 1915.—Dale, T. N., 1; Serpentine areas. 1 inch = 12 miles. 1915.—Wigglesworth, E.
——. Cuttingsville neighbourhood (Eruptive Rocks.). 1 : 28,000. 1918.—Eggleston, J. W.
Virginia. Allanite localities. 1 inch = 75 miles; 1917.—Watson T. L., 2; Hypersthene–syenite areas. 1 inch = 116 miles. 1916.—Watson, T. L., 5; Rutile deposits. 1 inch = 80 miles. 1914.—Watson, T. L., 1.
——. Allegheny & adjacent Cos. (Iron-ore localities). 1 : 500,000. 1915.—Weld, C. M., 1.
——. Hanover Co. Gouldin Zircon-bearing Pegmatite area. 1 inch = $2\frac{3}{4}$ miles. 1917.—Watson, T. L., 3.
Washington. Conconully & Ruby dists. 1 : 125,000. 1916.—Jones, E. L., 3.
——. Cowlitz R. Valley between Olequah & Winlock. 1 inch = 1 mile. 1916.—Weaver, C. E., 1.
——. Drainage Basins. 1 : 500,000. 1914.—Van Winkle, W., 1.
——. Fort Blakeley & vicinity. 1 inch = $\frac{3}{4}$ mile. 1916.—Weaver, C. E., 3.

AMERICA (North).
United States.
Washington. Glacier coalfield, Whatcom Co. 1 : 62,500. 1914.—Woodruff, E. G., 2.
——. Kittitas Co. Coalfields. 1 : 125,000; Roslyn–Clealum Coalfield. 4 inches = 1 mile. 1914.—Saunders, E. J.
——. Pierce Co. Coalfield. 1 inch = 1 mile. 1914.—Daniels, J.
——. River Surveys. Snoqualmie, Sultan & Skykomish; Wenatchee; Chelan & Methow; & Spokane River Basins. 1 : 31,680. 1914–15.—Marshall, R. B., 6 & 8–10; Yakima River Basin. 1 : 250,000. 1916.—Parker, G. L.
——. Valley Magnesite area. 3 inches = 2 miles. 1918.—Jenkins, O. P., 2.
West Virginia. Russell Fork Coalfield. 1 inch = 4,000 feet. 1914.—Rogers, G. S., 7.
Wisconsin. Devils Lake & vicinity (*various*). 1917.—Trowbridge, A. C., 2.
——. Zinc Mining dist. 1918.—George, H. C.
Wyoming. Atlantic Gold dist. 1 inch = $1\frac{1}{4}$ mile; North Laramie Mts. 1 inch = 7 miles. 1916.—Spencer, A. C.
——. Basin Oilfield. 1 : 125,000 & 1 : 62,500. 1916.—Lupton, C. T., 3.
——. Beartooth Plateau (Glaciation). 1 inch = 7 miles. 1919.—Dake, C. L., 5.
——. Central Western portion (Orography & Rivers). 1 inch = 20 miles; Gros Ventre Range (Old Moraine). 1 inch = 1 mile; Teton Range (Buffalo Drift) 1 cm. = 3 miles. 1915.—. Blackwelder, E., 4.
——. Douglas Oil & Gasfield. 1 : 125,000. 1914.—Barnett, V. H., 1.
——. Hart Mountain Overthrust. 1 inch = 8 miles. 1918.—Dake, C. L., 3.
——. Moorcroft Oilfield. 1 : 62,500; Big Muddy Dome. 1 : 125,000. 1914.—Barnett, V. H., 2.
——. Niobrara Co. (*Ceratops* beds) 1 inch = 10 miles. 1915.—Lull, R. S., 2.
—. Salt R. Range (portion). 1 : 62,500. 1916.—Mansfield, G. R., 2.
—. Wind River Basin. 1 : 625,000. 1914.—Schrader, F. C., 1.
AMERICA (South). Gold & Silver deposits. 1 cm. = 500 miles. 1917.—Lindgren, W., 5.

AMERICA (South). Lower Miocene Plant-beds. 1 inch = 800 miles. 1918.—Berry, E. W., 17.

Argentina. Coastal Region, Buenos Aires. 1 cm. = 4,000 metres. 1913.—Torres, L. M.

——. Lines of Dislocation. 1919. —Windhausen, A., 3.

——. Nevado de Famatina. 1 : 150,000. 1916.—Bodenbender, G.

——. Salta Prov. 1918.—Ducloux, E. H., 2.

——. Sierra Chica between Ongamira & Dolores. 1 : 50,000. 1918.—Rimann, E., 2.

——. Tin Mines near Mazan. 1 : 15,000. 1913.—Keidel, H.

——. Wolfram localities. 1 cm. = 250 miles. 1918.—Sharp, R. C.

Bolivia. Cordilleras of Cocopata. 1 : 850,000, *approx.*; Cordilleras of Cochabamba (Glacial Lakes). 1 : 430,000, *approx.* 1915.—Herzog, T.

Brazil. Bahia State. Diamantiferous area. 1 inch = 30 miles. 1919.—Crandall, R.; 1 : 2,000,000. 1917.—Hussak, E.

——. Coalfields (*various*). 1916. —Lisboa, A.

——. Livramento Sul de Minas (Nickeliferous deposit). 1 : 5,000. 1916.—Williams, H. E.

——. Minas Geraes (Iron-ores). 1 inch = 150 kilometres; Central Minas Geraes. 1 inch = 55 kilometres. 1915.—Harder, E. C., 4.

——. Parahyba & Rio Grande do Norte States. 1 cm. = 30 kilometres. 1916.—Soper, R. H.

——. Rio das Cinzas Coalfield. 1 : 200,000. 1916.—Oliveira, E. P. de, 1.

——. Southern States. (Coalfields) 1 : 2,000,000. 1918.—Oliveira, E. P. de, 2.

Chile. Andes of Pica. 1 : 250,000. 1918.—Brueggen, J., 4.

——. Los Alamos Coalfield. 2 cm. = 1 kilometre; Arauco Prov., N.E. portion. 1 : 125,000. 1915.—Brueggen, J., 1.

——. Pintados Salt Pan. 1 : 250,000. 1918.—Brueggen, J., 3.

——. Southern Magellan. 1 : 250,000. 1916.—Felsch, J., 2.

Colombia. Muzo Emerald deposits. 1 cm. = 2 kilometres. 1917.—Pogue, J. E., 4.

Patagonia. Region between the Rio Diamante & Rio Negro. 1 inch = 100 kilometres; Palæogeographic reconstruction of the San Jorge Sea. 1918.—Windhausen, A., 1.

AMERICA (South).

Patagonia. Region N.E. of Lago San Martin. 1 : 400,000. 1913.—Halle, T. G., 1.

Peru. Chimbote Pampas. 1 : 50,000; Chancay Pampas (Water-supply). 1 : 100,000. 1918.—Sutton, C. W., 1 & 2.

——. Chincha Valley Water-supply (*various*). 1918.—Portocarrero, J. N., 2.

——. Cuzco Valley. 1 : 62,500. 1916.—Gregory, H. E., 6.

——. Jatunhuasi Region. 1 : 500,000; Huacravilca (Iron ores). 1 : 7,500. 1918.—Dueñas, E. I.

——. Lambeyeque Valley. 1 : 200,000; Cañete & Ica Valleys. 1 : 50,000. 1917.—Torres, A. D.

——. Llapo Coalfield. 1 : 40,000. 1918.—Jimenez, J. V.

——. Pallasca, Huaylas & Yangay Provs. 1 cm. = 5 kilometres. 1918.—Léon, J. M. Y.

——. Piura R. & tributaries. 3 cm. = 5 kilometres. 1907.—Portocarrero, J. N., 1.

——. Southern Depts. (important Minerals). 1 : 1,000,000. 1918.—Basadre, C.

South Georgia. 1 cm. = 5 miles. 1916.—Ferguson, D., 3.

Tierra del Fuego. S. side of Bahia Tekenika. 1 : 75,000, *approx.* 1913.—Halle, T. G., 1.

ANTARCTIC REGIONS.

Adelie Land. 1 inch = 1,050 feet. 1918.—Stillwell, F. L., 1.

South Victoria Land (part). 1917.—Taylor, G., 1.

Weddell Sea. 1916.—Mossman, R. G.

ARCTIC REGIONS. Pleistocene distribution of Land & Sea. 1918.—Ahlmann, H. W., 5.

Bear Island. 1 cm. = 2 kilometres. 1917.—Antevs, E., 10.

Greenland. Carboniferous. 1916.—Grœnwall, K. A., 6.

——. North-Eastern portion (*various*). 1916.—Koch, J. P., 2.

Spitsbergen. Green Harbour. 1 cm. = 2 kilometres. 1915.—Isachsen, G., 2.

——. Prince Charles Foreland. 1 : 140,000. 1916.—Peach, A. M.

——. Sassen Tal. 1 : 200,000. 1915.—Wiman, C., 1.

ASIA.

Asia Minor. Anatolia. Mineral localities (*various*). 1919.—Penzer, N. M.

Burma. Earthquakes of May 12, 1912. 1 inch = 128 miles. 1914. —Brown, J. C., 3.

ASIA.

BURMA. Minbu District. Country near Ngahlaingdwin. 1½ inch = 1 mile. 1915.—Porro, C.

——. Northern Putao (Lead ores). 1 inch = 4 miles. 1919. —Stuart, M., 4.

——. Northern Shan States. 1 inch = 20 miles. 1919.—Loveman, M. H., 2.

——. ——. Bawdwin Mining area (*various*). 1917.—Brown, J. C., 8; Loveman, M. H., 1.

——. ——. Namyau area (Jurassic). 1 inch = 8 miles. 1917.—Buckman, S. S., 4.

——. Pakokku District. Coal outcrops (*various*). 1914.—Cotter, G. de P., 1.

——. ——. Eocene beds near Myaing. 1 inch = 1 mile. 1916. —Pilgrim, G. E., 9.

——. Tin & Tungsten localities. 1 inch = 120 miles; Tavoy District (Granite intrusions). 1 inch = 16 miles. 1919.—Brown, J. C., 11.

CENTRAL (*various*). 1916.—Leuchs, K.

——. Chitral & Pamir. 1 inch = 32 miles. 1915.—Hayden, Sir H. H., 4.

——. Distribution of Cenomanian. 1 cm. = 300 kilometres. 1917.—Stefanini, G., 3.

——. Eurasian Mountain Chains. 1 : 100,000,000. 1915.—Gregory, J. W., 2.

——. Pamir Region (Anomalies of Gravity). 1 : 2,500,000. 1918. —Oldham, R. D., 8.

CEYLON. Mineral localities. 1 inch = 40 miles. 1916.—*See* IMPERIAL INSTITUTE, 13.

CHINA. Hong-Kong (Iron-ore deposits). 1915.—Weld, C. M., 3.

——. Manchuria. Pen-hsi-hu Coalfield. 1 : 24,000. 1918.—Wang, C. F., 1.

——. Mineral localities (*various*). 1918.—Collins, W. F.

——. Mongolia. Tamir Valley (Glaciation). 1 cm. = 80 metres. 1914.—Pælsi, S.

——. Sze-Chuan (part). 1 inch = 68 miles. 1916.—Way, H. W. L.

——. Tayeh Iron Mines. 1 : 10,000; Tayeh & Surrounding district. 1 : 2,000,000. 1918. —Wang, C. Y.

——. Yünnan. Mountain Ranges. 1 cm. = 40 kilometres. 1917.—Legendre, A. F., 2; 1 : 5,000,000. 1919.—Ward, F. K., 4.

——. ——. Salween & Mekong Valleys (parts).—1 inch = 4 miles. 1916.—Brown, J. C., 7.

ASIA.

CHINA. Yünnan–Tibet Frontier (Glaciers). 1 : 750,000. 1916.—Ward, F. K., 1.

DUTCH EAST INDIES. 1 : 2,500,000. 1914.—Abendanon, E. C.

——. Pliocene distribution of Land & Sea. 1 : 7,500,000. 1918.—Van Es, L. J. C., *fil.*, 3.

——. Borneo. Tidung dist. 1 : 500,000. 1915.—Munniks de Jongh, W. D.

——. ——. Tjampaka & vicinity. 1 : 75,000. 1916.—Krol, L. H.

——. Celebes. Central, Sassak & Palopa areas (*various*). 1915.—Van Waterschoot van der Gracht, W. A. J. M.

——. ——. Luwu, Paré-Paré & Boni dists. 1 : 500,000. 1914.—Knijff, J. de K.

——. ——. Makasser & Boni dists. 1 : 150,000. 1915.—Steiger, H. von.

——. ——. Salo Talimbangan. 1 : 10,000. 1918.—Hœvig, P., 2.

——. ——. Soputan volcano. 1 : 30,000. 1914.—Mesdag, F. T.

——. ——. South-Western Coalfields (*various*). 1917.—t'Hoen, C. W. A. P., 2.

——. Dammer I. 1 : 100,000. 1918.—Molengraaff, G. A. F., 3.

——. Enggano I. 1 : 200,000. 1915.—Pontoppidan, H., 1.

——. Java. Eastern. Madura. Bali, Lombok & Sumbawa Is. 1 : 1,000,000. 1917.—Brouwer, H. A., 4; Sumbawa I. 1 : 500,000. 1915.—Van Rheden, J. J. P.

——. ——. Kawah-Idjen (Crater-lake). 1 : 2,000. 1917.—Van Gelder, J. K.

——. ——. Northern Rembang. 1 : 50,000; Ngandang–Lodan Coalfield. 1 : 10,000. 1918.—t'Hoen, C. W. A. P., 1.

——. ——. Southern Bantam. 1 : 50,000; South-East Bantam. 1 : 200,000. 1917.—Van Es, L. J. C., *fil.*, 1.

——. ——. Southern Bantam (Granite). 1 : 50,000. 1918.—Ziegler, K. G. J.

——. ——. Telaga Bodas (Lake). 1 : 5,000. 1915.—Wolvekamp, H.

——. Moa I. 1 : 200,000. 1918. —Brouwer, H. A., 7.

——. Pulo We I. 1 : 50,000. 1918.—Zwierzycki, J., 2.

——. Sangi Is. 1 : 2,500,000. 1915.—Komorowicz, P. M. Baron von.

——. Sumatra. Beneden–Jambi dist. 1 : 200,000 & 1 : 25,000. 1918.—*See* DUTCH EAST INDIES, 5.

ASIA.

Dutch East Indies. Sumatra. Benkulen Residency. 1:1,500,000; Benkulen Town. 1:1,000. 1915. —Pontoppidan, H., 2.

——. ——. Benkulen & Palembang Residencies. 1 : 200,000. 1916.—Moerman, C.

——. ——. Boven Kampar, Rokan dist. 1 : 300,000. 1915.—Brouwer, H. A., 3.

——. ——. Goemai Mts. 1 : 100,000. 1914.—Tobler, A., 1.

——. ——. Jambi Residency. 1 : 1,000,000. 1917.—Tobler, A., 2.

——. ——. Kru district. 1 : 200,000. 1915.—Zwierzycki, J., 1.

——. ——. Lampong district. Geology. 1 : 500,000; Tectonics. 1 : 1,000,000; River System. 1 : 1,000,000; Anticlinal near Baturaja. 1 : 50,000. 1917.—Hartmann, E.

——. ——. Lebong district. 1 : 100,000. 1914.—Hœvig, P., 1.

——. ——. Sunda Strait. 1 : 1,000,000. 1918.—Van Es, L. J. C., *fil.*, 2; Krakatoa I. 1 : 50,000. 1918.—Jongh, A. C. de.

India. Principal Mountain Ranges & Deflection of the Plumb-line. 1916.—Burrard, Sir S. G., 2.

——. Baluchistan. Sanni Sulphur Mine. 1 inch = 100 feet. 1919.—Cotter, G. de P., 4.

——. Bihar & Orissa. Koosumkussa Basin. 3 inches = 4 miles; Gurumaishini Hill. 3 inches = 2 miles. 1915.—Weld, C. M., 2.

——. Bombay. Alexandra Dock (Submerged Forest). 1 inch = 1,000 feet. 1919.—La Touche, T. H. D., 2.

——. ——. Ratnagiri District (Hot Springs). 1916.—Mann, H. H., 2.

——. Central Provinces. Chhindwara District, Linga area (Deccan Trap). 1½ inch = 2 miles. 1916.—Fermor, L. L., 9.

——. ——. Korea State. 1 inch = 4 miles; Kurasia Coalfield. 1 inch = 1 mile. 1914.—Fermor, L. L., 1 & 2.

——. ——. Seoni District (Laterite). 1 inch = 4 miles. 1917.—Burton, R. C.

——. Eastern Bengal & Sylhet (Earthquake map). 1 inch = 32 miles. 1918.—Stuart, M., 1.

——. Kashmir. Baltistan. Daso Aquamarine Mine. 8 inches = 1 mile. 1918.—Middlemiss, C. S., 4.

ASIA.

India. Kashmir. Jammu Prov. Nar-Budhan Dome area. 1 inch = 1 mile; Central part of Dome. 4 inches = 1 mile. 1919.—Middlemiss, C. S., 2.

——. ——. ——. Thrust-plane near Kotli. 2 inches = 1 mile. 1919.—Middlemiss, C. S., 3.

——. Kathiawar. Navanagar State. 1 inch = 4 miles. 1914.—Adye, E. H.

——. Mysore. Arsikere Taluk. 2 inches = 1 mile. 1917.—Jayaram, B., 3.

——. ——. Dod Guni & Voblapur (Limestone deposits). 8 inches = 1 mile. 1917.—Balaji Rao, B., 3.

——. ——. Geological Survey. 1 inch = 8 miles. 1915.

——. ——. Kadur District (Kaldurga conglomerate). 2 inches = 1 mile. 1917.—Sampat Iyengar, P., 2.

——. ——. Kemmangundi, Bababudan Hills (Iron-ores). 4 inches = 1 mile. 1919.—Venkataramaiya, B. N., 4.

——. ——. Koppa Taluk. 1 inch = 1 mile. 1917.—Sampat Iyengar, P., 3.

——. ——. Mineral localities. 1 inch = 12 miles. 1916.—Smeeth, W. F., 8.

——. ——. Mysore District (part). 1 inch = 2 miles. 1913. —Jayaram, B., 1.

——. ——. Shimoga District (part). 1 inch = 1 mile. 1919.—Jayaram, B., 7.

——. ——. ——. Agardhalli area (Gold). 2 inches = 1 mile. 1916.—Balaji Rao, B., 2.

——. Punjab. Kamlial area. 1 inch = 1 mile; Stream E. of Chharat. 1 inch = 200 feet. 1918.—Pinfold, E. S., 1.

——. —— & Kohat. Salt deposits (*various*). 1919.—Stuart, M., 2 & 3.

——. Rajputana. Eastern. Biana & Lalsot Hills. 1 inch = 4 miles. 1917.—Heron, A. M., 4.

——. ——. North-Eastern. 1 inch = 4 miles. 1917.—Heron, A. M., 2.

——. Travancore. Monazite Sands & Dunes. 1 inch = 4 miles. 1914.—Tipper, G. H.

——. United Provinces. Kumaon Himalaya (Glaciers) (*various*). 1914.—Grinlinton, J. L.

—— (Northern). Geodetic Stations. 1 inch = 32 miles & 1 inch = 16 miles. 1917.—Oldham, R. D., 4.

ASIA.

INDIA (Northern). Pleistocene Glaciation; & Sikkim. 1 inch = 6 miles. 1919.—Gregory, J. W., 36.

—— (Southern). 1 inch = 148 miles. 1916.—Smeeth, W. F., 4.

—— (—). Adam's Bridge (Physical features). 1 inch = 2 miles. 1917.—Waring, F. J.

INDO-CHINA. Annam (Northern part). 1917.—Deprat, J., 16.

——. Tonkin. North-Eastern. 1 : 500,000.—Giraud, J.

——. ——. Upper. Ma-li-po, Yen-Minh, Pa-Kha & Ha-Giang dists. 1 : 100,000. 1915.—Deprat, J., 7.

JAPAN. Akasaka (Permo-Carboniferous). 1 : 100,000. 1914.—Deprat, J., 2.

——. Geological Survey. Sheets Niigata & Shiriazaki. 1916–17.

——. Geotectonics. 1 cm. = 185 kilometres. 1917.—Yabe, H., 5.

——. Hibira dist. 1 : 50,000. 1915.—Kato, T., 1.

——. Ichinokawa Mines area. 1 : 25,000. 1915.—Yabe, H., 1.

——. Northern Alps (Glaciation). 1 : 1,000,000. 1915.—Oseki, K., 1 & 2; Weston, W.

——. Oda Mining dist. 1 : 20,000. 1916.—Kato, T., 3.

——. Sakura-Jima volcano (*various*). 1914–16.—Kotô, B.; Omori, F., 1 & 2; Sabatini, V., 4.

——. Sendai & vicinity. 1 : 40,000. 1915.—Suginome, B.; Tertiary Forest Floor. 1 : 2,500. 1915.—Hayasaka, I., 1.

——. Suzuyama dist. 1 : 24,000. 1916.—Kato, T., 2.

——. Tarumai volcano. 1 : 150,000 *approx.* 1917.—Simotomai, H., 2.

——. Usu volcano. 1 inch = 2 kilometres. 1917.—Ōinouye, Y., 3.

KOREA. 1 inch = 200 miles; Suan Mining area. 3 inches = 8 miles. 1918.—Higgins, D. F.

MALAY ARCHIPELAGO. Distribution of Billitonite. 1 inch = 450 miles. 1915.—Mueller, F. P.

MALAY STATES. Kinta dist. 1 inch = 3 miles. 1916.—Jones, W. R., 2.

——. South Perak & North Selangor. 1 inch = 4 miles. 1919.—Scrivenor, J. B., 8.

——. Ulu Pahang (part). 1 inch = 12 miles.—Willbourn, E. S., 2.

PHILIPPINE ISLANDS. Calambayanga (Iron-ores). 1 cm. = 1 kilometre. 1915.—Pratt, W. E., 6.

——. Caramoan Peninsula. 1 cm. = 5 kilometres. 1915.—Pratt, W. E., 5.

ASIA.

PHILIPPINE ISLANDS. Earthquake map, 1862–1909. 1910.—Masó, M. S.

——. Guimaras I. & part of Panay (Water-supply). 1 cm. = 4 kilometres. 1915.—Heise, G. W., 1.

——. Lake Laguna de Bay; Bombon or Taal Lake. 1916.—Pratt, W. E., 9.

——. Leyte. N.W. portion. 1 cm. = 10 kilometres; Neighbourhood of Villaba, Leyte (Bitumen outcrops). 1 cm. = 1½ kilometre. 1915.—Pratt, W. E., 2.

——. Luzon. N. portion. 1 cm. = 12 kilometres. 1917.—Heise, G. W., 7; 1 cm. = 15 kilometres. 1915.—Smith, W. D., 1; & South-Central Luzon. 1 cm. = 8 kilometres. 1917.—Wright, J. R.

——. Malampaya Sound (Coral reefs). 1918.—Davis, W. M., 17.

——. Petroleum occurrences. 1 inch = 200 miles. 1916.—Pratt, W. E., 7.

——. Surigao Iron-ore deposit, Mindanao. 1 cm. = 2¼ kilometre. 1915.—Pratt, W. E., 10 & 11.

SIBERIA. Lenskoi Gold Mines. 1 inch = 22 miles. 1916.—Purington, C. W., 4.

——. Taimur I. 1 cm. = 30 kilometres. 1918.—Backlund, H., 3.

SYRIA. 1 : 3,700,000. 1914.—Blanckenhorn, M.

——. West-Central Sinai. 1 : 50,000. 1916.—Ball, J., 1.

TRANSCAUCASIA. Julfa Gorge, Araxes R. 1 : 110,000. 1912.—Bonnet, P., 1.

TURKESTAN. 1 cm. = 50 miles. 1913.—Rickmers, W. R.

——. Sultan-Uis-Dagh. 3 cm. = 4 versts. 1914.—Preobrajensky, J., 4.

TURKEY IN ASIA. Mineral localities. 1 inch = 65 miles. 1914.—Edwards, G. M.

AUSTRALASIA. Palæogeography. 1916.—Schuchert, C., 5.

AUSTRALIA. 1 inch = 450 miles. 1914.—David, T. W. E.

——. Distribution of Tin deposits. 1 inch = 700 miles. 1914.—Herman, H., 1.

——. Orography. 1 inch = 300 miles. 1914.—Cambage, R. H.

——. Physiography (*various*). 1919.—Taylor, G., 3.

NEW CALEDONIA. 1 : 1,250,000. 1917.—Compton, R. H. 1 inch = 50 miles. 1917.—Miller, W. G., 2.

AUSTRALASIA.

New Hebrides. Ambrym I. 1 inch = 4 geogr. miles. 1917.—Gregory, J. W., 30; 1915.—Marshall, P., 3.

New South Wales. 1 inch = 46 miles. 1914.—Suessmilch, C. A., 1.

——. Adelong Goldfield. 5 inches = 1 mile. 1916.—Harper, L. F., 4.

——. Attunga dist. 1 inch = 5 miles. 1918.—Benson, W. N., 5.

——. Canbelego Mining dist. (*various*). 1915.—Andrews, E. C., 2.

——. Cargo Goldfield. 4 inches = 1 mile. 1915.—Andrews, E. C., 3.

——. Cooma dist. 1 inch = 1½ mile. 1914.—Browne, W. R.

——. Copeton Diamond-field. 1 inch = 1¾ mile. 1915.—Cotton, L. A., 2.

——. Geological Survey. 1 inch = 16 miles. 1914.

——. ——. Southern Coalfield (*various*). 1915. By L. F. Harper.

——. Hyde's Creek complex. 1 inch = 160 yards; Silver Gully complex. 1 inch = 240 yards. 1915.—Benson, W. N., 2.

——. Illawarra Colliery dist. 1 inch = about 6 miles. 1919.—Robertson, J. R. M.

——. Jenolan Caves dist. 5 inches = about 1 mile. 1915.—Suessmilch, C. A., 3.

——. Limestone deposits. 1 inch = 32 miles. 1919.—Carne, J. E.

——. Loomberah dist. 1 inch = 1 mile. 1918.—Benson, W. N., 6.

——. Molybdenum Mines (*various*). 1916.—Andrews, E. C., 11.

——. New England, Western slopes. 1 inch = 8 miles; Black Mountain Range. 1 inch = 3 miles. 1917.—Benson, W. N., 4.

——. Permo-Carboniferous Basin, S.E. portion. 1 inch = 10 miles. 1915.—Harper, L. F., 3.

——. Tamworth dist. 1 inch = 1 mile. 1915.—Benson, W. N., 3.

——. Tumut Gold Mining area. 1 inch = 1 mile. 1917.—*See* New South Wales, 3.

New Zealand. Distribution of younger Limestones. 1916.—Marshall, P., 4.

——. Earthquake Origins to East. 1918.—Hogben, G.

——. Trias localities. 3 cm. = 200 miles. 1917.—Trechmann, C. T., 2.

——. North Island. Hautapu Valley. 1 inch = 9 miles. 1916. — Park, J., 2.

AUSTRALASIA.

New Zealand. North Island. Huntly dist. 1 inch = 1¼ mile. 1916.—*See* New Zealand, 5.

——. ——. Kaipara dist. (Central). 1 inch = 4 miles. 1917.—Marshall, P., 7.

——. ——. Napier South & Taradale dists. 1½ cm. = 1 mile. 1917.—Holmes, R. W.

——. ——. South-Western Wellington. Coastal dist. 1 inch = 10 miles. 1918.—Cotton, C. A., 9.

——. ——. Waikato R. near Maungatautari. 1 inch = 3 miles. 1918. — Henderson, J., 3.

——. ——. Waitewhena dist. (Coal outcrops). 2 inches = 1 mile. 1917.—*See* New Zealand, 6.

——. ——. Wellington Peninsula. 1 cm. = 1½ mile. 1916.—Broadgate, F. K.

——. ——. Zones of Active Volcanoes & Hot Springs. 1 inch = 120 miles; Great Fissure in Mt. Tarawera. 1 inch = 3 miles. 1917.—Moore, E. S., 4.

——. South Island. Banks Peninsula. Head of Lyttelton Harbour. 1 cm. = 1 mile. 1917.—Speight, R., 9.

——. ——. Block Mountains. 1 inch = 100 miles. 1917.—Cotton, C. A., 3.

——. ——. Brunner, Dobson & surrounding dist. 2 inches = 1 mile. 1919.—*See* New Zealand, 8.

——. ——. Canterbury Prov. (part). 1 inch = 25 miles. 1915.—Speight, R., 1; Fault lines of Tertiary beds. 1 inch = 26 miles. 1916.—Speight, R., 4.

——. ——. Cass & adjoining dists. 1 inch = 1 mile. 1916.—Speight, R., 5.

——. ——. Castle Hill Basin, Canterbury. 1 inch = 2 miles. 1917.—Speight, R., 6.

——. ——. East Coast (part). 1 inch = 18 miles. 1918.—Speight, R., 11.

——. ——. Harper River dist. 1 inch = 8½ miles. 1917.—Speight, R., 7.

——. ——. Hurunui Valley, Canterbury. 1 inch = 19 miles & 1 inch = 4½ miles. 1918.—Speight, R., 10.

——. ——. Kaikoura dist. 1 inch = 2 miles. 1916.—*See* New Zealand, 5.

——. ——. Murchison dist. 1 cm. = 1 kilometre. 1917.—*See* New Zealand, 6.

AUSTRALASIA.

New Zealand. South Island. Nightcaps—Mt. Linton Coalfield. 1 inch = 1 mile. 1917.—*See* New Zealand, 6.

——. ——. Northern Nelson. 1 inch = 20 miles; Aorere–Gouland area. 1 inch = 6 miles. 1916.—Cotton, C. A., 2.

——. ——. Oamaru dist. 1 inch = 14 miles. 1915.—Marshall, P., 2; & (*various*). 1918.—Park, J., 8.

——. ——. Oamaru – Papakaio dist. 1 inch = 1 mile. 1918.—Uttley, G. H., 3.

——. ——. Pareora dist., S. Canterbury. 1 inch = about 4½ miles. 1918.—Gudex, M. C.

——. ——. Rimu Goldfield, Westland. 1 inch = 25 chains. 1917.—*See* New Zealand, 12.

——. ——. Soil districts. 1917.—Wild, L. J., 4.

——. ——. Tuapeka dist., Otago. 1 : 126,720. 1918.—Marshall, P., 11.

——. ——. Waihao Coalfield, S. Canterbury. 1 inch = 2 miles. 1915.—*See* New Zealand, 3.

——. ——. Wairau Plain. Marlborough. 1 inch = 5¼ miles. 1915.—Wild, L. J., 1.

——. ——. Westport Division (*various*).—Morgan, P. G., 9.

——. ——. Westport & North Westland Divns. (parts). 1 inch = 1 mile. 1917.—Henderson, J., 1.

Papua. Hohoro–Vaiviri dist. 2 inches = 1 mile. 1918.—Langford, W. G., 2.

——. Misima (St. Aignan). 1 inch = 1 mile. 1915.—Stanley, E. R., 2.

——. Petroleum area. 1 inch = 24 miles. 1918.—Chapman, F., 25; *also* (*various*) by A. Wade.

——. Woodlark I. (Murua). 1 cm. = 1 mile. 1912.—Stanley, E. R., 1.

Queensland. Arbouin Copper Mines. 1 inch = 24 chains. 1918.—Ball, L. C., 11.

——. Baffle Creek (Tertiaries). 1 inch = 3 miles. 1915.—Ball, L. C., 5.

——. Bamford area. 1 inch = 3 miles. 1914.—Ball, L. C., 2.

——. Bowen Coalfield. No. 1 area. 2 inches = 1 mile. 1917.—*See* Queensland, 1.

—. Charters Towers Goldfield. 10 inches = 1 mile. 1917.—Reid, J. H., 4.

——. Coastal district N. of Newcastle. 1 inch = 32 miles. 1918.—Benson, W. N., 7.

AUSTRALASIA.

Queensland. Cooktown Mining dist., Annan R. & Bloomfield R. Tinfields (*various*). 1916.—Saint-Smith, E. C., 3.

——. Etheridge Goldfield. 1 inch = 10 miles. 1915.—Ball, L. C., 3.

——. Gladstone & Burnett dists. 1 inch = 42 miles. 1918.—Jensen, H. I., 5.

——. Herberton & Chillagoe Gold & Mineral fields. 1 inch = 12 miles. 1917.—*See* Queensland, 1.

——. Jibbenbar Arsenic field. 1 inch = 70 chains. 1918.—Jensen, H. I., 6.

——. Lower Mesozoic Rocks. 1 inch = 180 miles. 1918.—Walkom, A. B., 6.

——. Maryborough dist. 1 inch = 5 miles. 1918.—Walkom, A. B., 4.

——. Maxwelton Goldfield. 1 inch = 50 chains. 1916.—Ball, L. C., 7.

——. Mt. Morgan & dist. 1 inch = 19 chains. 1917.—Gaby, W. E.; 4 cm. = 1 mile. 1912.—Hart, G. S.

——. Mt. Mulligan Coalfield. 1 inch = ¾ mile. 1917.—Ball, L. C. 10.

——. Oxley Creek Coal area, Hughenden dist. 1 inch = 14 chains. 1918.—Reid, J. H., 5.

——. Pentland–Hughenden area. 1 inch = 16 miles; Bett's Creek area. 1 inch = 2½ miles. 1916.—Reid, J. H., 1.

——. Silver Spur Mining reserve. 1 inch = 56 chains. 1918.—Ball, L. C., 12.

——. South-Eastern portion. Distribution of Volcanic Rocks. 1 inch = 9 miles. 1916.—Richards, H. C., 1.

——. Stannary Hills. 1 inch = 1 mile. 1918.—Hope, G. B.

——. Stanthorpe dist. (*various*). 1914.—Saint-Smith, E. C., 1.

——. The Narrows (Tertiary). 1 inch = 3½ miles. 1915.—Ball, L. C., 5.

South Australia. 1 inch = 120 miles & 1 inch = 48 miles. 1917.—*See* South Australia, 2.

——. Eyre's Peninsula; Kangaroo I.; & South-Eastern dist. 1 inch = 8 miles. 1915.—Wade, A., 1.

——. Kuitpo Forest. 8 inches = 1 mile. 1918.—Teale, E. O.

——. Moonta area. 4 inches = 1 mile; Wallaroo, Kadina & Tiparra Hundreds. 1 inch = 1 mile. 1917.—Jack, R. Lockhart, 2.

AUSTRALASIA.

South Australia. Mt. Remarkable. 1 inch = 44 chains. 1916. —Howchin, W., 5.

——. Region to S. & E. of the Musgrave Ranges. 1 inch = 5 miles; Region between the Denison & Musgrave Ranges. 1 inch = 16 miles. 1915.—Jack, R. Lockhart, 1.

——. Yudnamutana Mining field. 16 inches = 1 mile. 1916.—Ward, L. K.

——. (Northern Territory). 1 inch = 22 miles. 1915.—Jensen, H. I., 3.

——. ——. Agicondi Prov. 1 inch = 1¾ mile. 1919.—Jensen, H. I., 8.

——. ——. McArthur River dist. 1 inch = 15 miles; Sir Edward Pellew Is. 1 inch = 5 miles. Jensen, H. I., 1.

——. ——. Maranboy Tinfield. 4 inches = 1 mile; Maranboy & King River. 1 inch = 1 mile. 1915.—Gray, G. J., 2.

——. ——. Pine Creek Goldfield 1 inch = 900 feet. 1914.—Oliver, T. G.

——. ——. Western Rivers dist. 1 inch = 18 miles. 1916.—Basedow, H., 3.

——. ——. Yenberrie Wolfram field. 8 inches = 1 mile. 1916.—Gray, G. J., 3.

Tasmania. Anderson's Creek Asbestos field. 1 inch = 15 chains. 1917.—Twelvetrees, W. H., 8.

——. Bangor Slate Leases. 2 inches = 1 mile. 1918.—Twelvetrees, W. H., 11.

——. Blue Tier Tin Mining dist. 1 inch = ¾ mile. 1912.—Moore, M. S.

——. Cape Sorell–Point Hibbs area. 1 inch = 2 miles. 1914.—Hills, L., 1.

——. Catamaran Coalfield. 1 inch = 30 chains; Ida Bay Coalfield. 1 inch = ¾ mile; Strathblane Coalfield. 1 inch = ¾ mile. 1915.—Twelvetrees, W. H., 1.

——. Cradle Mountain dist. 1 inch = 1 mile. 1917.—Benson, W. N., 8.

——. Gladstone dist. 1 inch = 30 chains. 1916.—Twelvetrees, W. H., 4.

——. King I. Scheelite Mine. 1 inch = 100 feet. 1916.—Waterhouse, L. L., 2.

——. Limestone area, Flowery Gully. 4 inches = 1 mile. 1917. —Twelvetrees, W. H., 6.

——. Mersey & Don Coalfields. 1 ncih = 1 mile. 1861.—Gould, C.

Tasmania. Middlesex & Mt. Claude dists. 2 inches = 1 mile. 1919. —Reid, A. M., 2.

——. Mount Read Mining field. 1 inch = 50 chains. 1915.—Hills, L., 2.

——. North Bruny I. 1 inch = 1 mile. 1915.—Wade, A., 2.

——. North Dundas Mining field. 12 inches = 1 mile. 1918.—Conder, H., 2.

——. North Pieman & Huskisson Mining dist. 2 inches = 1 mile. 1918.—Reid, A. M., 1.

——. Ochre deposits near Mowbray. 1 inch = 1½ mile. 1917. —Twelvetrees, W. H., 9.

——. Recherche Bay–New River area. 1 inch = 2½ miles; Surprise Bay. 1 inch = 16 miles. 1915. — Twelvetrees, W. H., 3.

——. Rosebery Mining field. 1 inch = 50 chains. 1915.—Hills, L., 3.

——. South Heemskirk Tinfield. 1 inch = 45 chains. 1916.—Waterhouse, L. L., 1.

Victoria. Castlemaine dist. (Graptolite zones). 1 inch = 2¾ miles. 1916.—Harris, W. J.

——. Clunes Goldfield. 8 inches = 1 mile. 1917.—Baragwanath, W., 4.

——. Coburg area. 1 inch = 32 chains. 1916.—Cook, G. A.

——. East Walhalla (Copper & Platinum). 10 inches = 1 mile. 1917.—Howitt, A. M., 5.

——. Exposed Jurassic Strata. 1914.—Hunter, S., 2.

——. French I. (Limonite). 1 inch = 110 chains. 1917.—Dunn, E. J., 8.

——. Geological Survey. Beringama. 2 inches = 1 mile. 1917.

——. ——. Canabore. 2 inches = 1 mile. 1917.

——. Grice's Creek & Balcombe Bay (Marl deposits). 2 inches = 1 mile. 1917.—Keble, R. A., 1.

——. Healesville & Narbethong area (Igneous Rocks). 1 inch = 2 miles. 1915.—Junner, N. R., 2.

——. Jumbunna & Powlett Plains, S. Gippsland. 1 inch = 2 miles; Mornington & Bulu Bulu Cos. 2 inches = 1 mile. 1917.—Kitson, A. E., 2.

——. Kew, near Melbourne. 2 inches = about 1 mile. 1916.—Langford, W. G., 1.

——. Mount Greenock area. 2 inches = 1 mile. 1915.—Fenner, C., 1.

AUSTRALASIA.

Victoria. Queenstown & Greensborough Parishes (part). 1 inch = about 1 mile. 1914.—Junner, N. R., 1.

——. Tallandoon, Eskdale & Mitta Mitta Tinfield. 2 inches = 1 mile. 1915.—Whitelaw, O. A. L., 3.

——. Tanjil Goldfield. 4 inches = 1 mile. 1916.—Murray, R. A. F.

——. Werribee River area. 1 cm. = 2 miles. 1918.—Fenner, C., 2.

——. Wonthaggi Coalfield. 2 inches = 1 mile; State Coal-mine. 8 inches = 1 mile. 1918.—Herman, H., 3.

——. Wood's Point dist. 2 inches = 1 mile. 1916.—Whitelaw, O. A. L., 1.

Western Australia. 1 inch = 125 miles. 1915.—Maitland, A. G., 1; & 1 : 3,000,000. 1894.—By H. P. Woodward.

——. Bremer Range area, Dundas G.F. 1 inch = 4 miles. 1914.—Honman, C. S., 4.

——. Collie Coalfield. 1 inch = 95 chains. 1915.—Woodward, H. P., 3.

——. Comet Vale (Physiography). 2 inches = 1 mile. 1919.—Jutson, J. T., 12.

——. Coolgardie & E. Coolgardie Goldfields (*various*). 1916.—Honman, C. S., 5.

——. Coolgardie G.F., Woodline Rush. 1 inch = 6 chains. 1914.—Honman, C. S., 2.

——. Country between Bulong & Lake Yindarlgooda, N.E. Coolgardie G.F. 1 inch = 30 chains; Magnesite area, Bulong. 1 inch = 15 chains. 1919.—Feldtmann, F. R., 4.

——. Country between Coolgardie & Boulder. 1 inch = 1 mile; Binduli, E. Coolgardie G.F. 1 inch = 15 chains. 1914.—Honman, C. S., 1.

——. Distribution of Rare Metals. 1914.—Simpson, E. S., 1.

——. "Dry" Lakes. 1 inch = 75 miles. 1918.—Jutson, J. T., 8.

——. Extreme S.W. portion. 1 inch = 4 miles. 1915.—Woodward, H. P., 5.

——. Gingin. 1 inch = 1 mile. 1917.—Chapman, F., 18.

——. Golden Ridge, E. Coolgardie G.F. 8 inches = 1 mile. 1914.—Honman, C. S., 3.

——. Goldfields & Economic Minerals. 1 inch = 75 miles. 1915.—Maitland, A. G., 2.

AUSTRALASIA.

Western Australia. Kalgoorlie (N. end), E. Coolgardie G. F. 8 inches = 1 mile. 1916.—Feldtmann, F. R., 3.

——. Kalgoorlie–Mulline area. 1 inch = 4 miles; Mulline, N. Coolgardie G.F. 2 inches = 1 mile. 1915.—Feldtmann, F. R., 2.

——. Kanowna, N.E. Coolgardie G.F. (Alunite deposits). 2 inches = 1 mile. 1919.—Simpson, E. S., 5.

——. Kurnalpi, N.E. Coolgardie G.F. 2 inches = 1 mile. 1914.—Jutson, J. T., 1.

——. Lake Goongarrie. 1 inch = 1½ mile. 1918.—Jutson, J. T., 9.

——. Lennonville, Mt. Magnet & Boogardie dists., Murchison G. F. 1 inch = ¾ mile. 1914.—Jutson, J. T., 2.

——. Meekatharra, Murchison G.F. (*various*). 1916.—Clarke, E. de C., 3.

——. Murchison Gold-field. 1 inch = 4 miles; Coolardy area & Poona Mining centre. 4 inches = 1 mile. 1914.—Woodward, H. P., 1.

——. Narra Tarra Mines, Victoria dist. 8 inches = 1 mile. 1914.—Talbot, H. W. B., 4.

——. Northampton Lead dist. 1 inch = 20 miles. 1919.—Harris, C. M.

——. Physical Geology (*various*). 1914.—Jutson, J. T., 5.

——. Yerilla, N. Coolgardie G.F. 2 inches = 1 mile. 1915.—Jutson, J. T., 6.

——. Yilgarn Goldfield. 1 inch = 4 miles; Marvel Lock centre; Gt. Victoria & Parker's Range; Olga, Dulcie & Cheriton's centre. 2 inches = 1 mile. 1915.—Blatchford, T., 2.

EUROPE. Coast of Carboniferous Continent. 1917.—Walker, G. B., 1.

——. Coalfields (*various*). 1911.—Gruner, E.

——. Glacial Period. 1 inch = 440 miles. 1914.—Geikie, J., 3.

——. Kimmeridgian Period. 1915.—Vidal, L. M.

——. South-West. Principal Cavern Regions. 1 inch = 40 miles. 1916.—Osborn, H. F., 5.

——. Zoogeographical Regions & Pleistocene Mammalian deposits. 1915.—Osborn, H. F., 1.

Austria. Eastern Alps. 1915.—Heritsch, F., 2.

——. Tyrol (Eruptive Rocks). 1 cm. = 28 kilometres. 1914.—Tanton, T. L., 1.

EUROPE.

Austria. Tyrol. Hohe Tauern (Flugkogel Gneiss). 1 : 75,000. 1914.—Schurk, L.

Belgium. Campine Coalfield (*various*). 1916.—Krusch, P.

——. Carboniferous Limestone (*various*). 1911.—Delépine, G., 1.

——. Dinant & Namur Basins (Famennian). 1 cm. = 6 kilometres. 1913.—Asselberghs, E., 2.

——. Hainault. Devonians Reefs between Dailly & Boussu-en-Fagne; Devonian between Nismes & Fagnolle. 1 : 40,000. 1914.—Maillieux, E., 6.

——. ——. Neighbourhood of Jamioulx. 1 : 20,000. 1919.—Anthoine, R., 3.

——. Sambre–Meuse area (Silurian). 1 : 20,000. 1914.—Malaise, C., 2.

——. Vitrival area. 1 : 40,000. 1919.—Fourmarier, P., 5.

Bohemia. Central Range. Neighbourhood of Lewin. 1 : 25,000. 1915.—Hibsch, J. E., 1; between Gartitz & Tellnitz. 1 : 25,000. 1914.—Seemann, F.

Dalmatia. Formerly Glaciated localities. 1 : 4,000,000; Hanging Valleys near Mt. Vlastica & Trau. 1 : 100,000. 1915.—Gregory, J. W., 3.

Denmark. Ærtbolle Head. 1 : 10,000. 1916.—Madsen, V., 3.

——. Bornholm I. 1 : 100,000. 1916.—Grœnwall, K. A., 8; Milthers, V., 2.

——. Jutland. Faulting. 1 : 100,000; between Thorso & Havrum; near Sköd; & between Amstrup & Tungelund. 1 : 20,000. 1916.—Milthers, V., 1.

——. ——. Southern portion (Peat-bogs) (*various*). 1918.—Jessen, A., 5.

——. Mellerup area. 1916.—Koch, L., 1.

Finland. Distribution of Lakes. 1 : 1,500,000. 1913.—Sederholm, J. J., 3.

——. Joensuu dist. 1 : 400,000. 1915.—Frosterus, B., 2.

——. Kisko–Kimito Leptite belt. 1 : 200,000; Orijärvi Region. 1 : 20,000. 1914.—Eskola, P., 2.

——. Laurinkari I. (Scapolite-bearing Rocks). 1 cm. = 6 kilometres. 1913.—Borgstrœm, L. H., 2.

——. Northern Lavia & adjacent area. 1 : 200,000. 1915.—Mækinen, E., 2.

——. Mölönjärvi area. 1 : 48,000. 1915.—Wilkman, W. W., 2.

EUROPE.

Finland. Pargas dist. 1 : 400,000. 1914.—Karlsson, G.

——. Pleistocene deposits. 1 : 1,000,000. 1912.—Wilkman, W. W., 1.

——. Rovaniemi, Torneå & Over-Torneå. 1 : 400,000. 1914.—Hackman, V., 3.

——. St. Michel area. 1 : 400,000. 1911.—Frosterus, B., 1.

——. South-Eastern portion. 1 cm. = 35 kilometres. 1912.—Borgstrœm, L. H., 1.

——. Tammela area. 1 cm. = 2 kilometres. 1913.—Mækinen, E., 1.

——. Tammerfors Region. 1 : 400,000. 1911.—Sederholm, J. J., 1.

——. Tuutijärvi area. 1 : 100,000. 1914.—Hackman, V., 1.

France. Allier. Montlucon–Gueret area. 1 : 500,000. 1914.—Glangeaud, P., 1.

——. Auvergne. Banne d'Ordanche, Puy-Loup & Puy-Gros. 1919.—Glangeaud, P., 12.

——. ——. Pouzol-Servant (Laccolite). 1 : 80,000. 1914.—Garde, G., 2.

——. Basses-Alpes. Castellane area. 1 : 80,000. 1914.—Guébhard, A. 1.

——. ——. South-Eastern portion. 1 : 80,000. 1919.—Guébhard, A., 27.

——. Bouches-du-Rhône. Coast from Port de Gignac to Cape Couronne. 1 : 100,000; Coast from Grand-Vallat to Sausset. 1 : 20,000 *approx.* 1912.—Cottreau, J., 1.

——. Calvados. Synclinal of Urville. 1 : 100,000. 1914.—Kerforne, F., 1.

——. Cher. Neighbourhood of Les Aix d'Angillon. 1 : 30,000. 1916.—Grossouvre, A. de, 3.

——. Isère. Ancient Glaciers near Gresse. 1916.—Hollande, D.

——. Jura. La Serre Massif. 1 : 160,000. 1911.—Jourdy, E., 1.

——. ——. Mont Roland. 1 : 75,000. 1911.—Bourgeat, l'Abbé, 1.

——. ——. Salins area. 1 : 300,000 *approx.* 1914.—Bourgeat, l'Abbé, 4.

——. Lorraine Ore-field. 1 : 400,000. 1914.—Nicou, P.

——. Manche. Mortain area. 1 : 50,000. 1914.—Anthoine, R., 1.

——. Nord. Torrent d'Anzin. 1913.—Gosselet, J., 4.

——. Normandy. Iron-ore concessions. 1 : 320,000. 1914.—Nicou, P.

EUROPE.

France. Northern (Physiography) (*various*). 1918.—Davis, W. M., 13.

——. Pas-de-Calais. Water-table S.W. of Cambrai. 1 : 80,000. 1913.—Dollé, L., 2.

——. Paris Basin (*various*). 1911.—Lemoine, P., 1; 1 : 2,000,000. 1912.—Leriche, M., 1.

——. Pyrenees. 1 : 1,000,000, 1915.—Spitz, A., 2.

——. Rhone & Isère Valleys (Terraces). 1 : 80,000. 1915.—Lamothe, L. de, 2.

——. Savoy. Curienne–La-Thuile Massif. 1 : 50,000. 1916.—Lemoine, E.

——. Var. Area N.E. of Draguinan. 1 : 80,000. 1919.—Guébhard, A., 27.

——. ——. North-Eastern portion. 1 : 80,000. 1917.—Guébhard, A., 27.

——. ——. Sainte - Baume Massif. 1 : 25,000; Hills S. of Nans. 1 : 20,000; Neighbourhood of Sainte-Baume. 1 : 80,000. 1915.—Haug, E., 1.

——. ——. Vinon area. 1 : 100,000. 1916.—Zurcher, P., 2.

Franco–Belgian Province. Dinantian. 1 : 588,000. 1915.—Vaughan, A., 1.

Germany. Baden. Weichs–Schaffhausen (Spezialkarte). 1 : 25,000. 1916.

——. Friesland (Peat-bogs). 1 cm. = 5 kilometres. 1914.—Haanel, B. F., 1.

——. Hilsmulde (Structure & Springs). 1 : 33,333⅓; Ohmgebirge (Structure). 1 : 37,500. 1915.—Walter, E.

——. Katzenelnbogen (Taunus-quartzite). 1 : 100,000. 1913.—Kegel, W.

——. Northern (Glaciation). 1 : 5,000,000. 1915.—Osborn, H. F., 1; 1 : 3,500,000. 1916.—Tietze, O.; 1 : 2,500,000. 1909.—Wahnschaffe, F.

——. Saarbrücken area. 1 : 50,000; Spittel–Merlenbach. 1 : 50,000. 1914.—Kessler, P.

——. Valley of the Main. 1 : 2,000,000. 1915.—Wenz, W.

Greece. Peninsula of Chalcis (part). 3 cm. = 5 kilometres. 1917.—Lugeon, M., 12.

——. Scarpanto (Karpathos) I. 1 : 200,000. 1916.—Martelli, A.

Holland. Coalfields. 1 : 850,000. 1919.—Asselberghs, E., 4. *See also* Holland.

——. Maas Valley (Pliocene Terraces). 1 : 750,000. 1915.—Reid, C., 6.

EUROPE.

Hungary. Bukowina. Manganese-ore deposits. 1 inch = 25 miles. 1916.—Scott, H. K.

Iceland. Lodmundarfjord dist. 1 inch = 1 mile. 1917.—Hawkes, L., 4.

——. Volcanic Rocks. 1 cm. = 50 kilometres. 1919.—Bailey, E. B., 3.

Italy. Campania. Neighbourhood of the “ Bolle della Malvizzo ” (Montecalvo Irpino). 1 : 50,000. 1916.—Bongo, F., 2.

——. ——. Neighbourhood of Vesuvius. 1 : 50,000. 1914.—Rossi, R.

——. Central. Ancient Sea & Lake Basins. 1 cm. = 17 kilometres. 1919.—Preller, C. S. du R., 16.

——. Lago Maggiore Basin. 1 : 250,000; Oglio R. Basin. 1 : 320,000. 1914.—Patrini, P., 1.

——. Liguria. Eastern portion (Ophiolithic groups) (*various*). 1916.—Preller, C. S. du R., 11.

——. ——. Ligurian Alps. 1 : 100,000. 1912.—Termier, P., 12.

——. ——. San Remo Basin. 1 cm. = 1½ kilometre; Riviera di Ponente. 3 cm. = 5 kilometres. 1916.—Franchi, S., 3.

——. ——. Western. Savona Massif. 1 : 100,000. 1916.—Preller, C. S. du R., 9.

——. ——. ——. Voltri group. 1 : 500,000. 1916.—Preller, C. S. du R., 10.

——. Lombardy. Brescia area. 1918.—Bonomini, C., 3; 1 : 40,000. 1915.—Zaccagna, D.

——. ——. Chiese Valley, Gavardo–Vobarno. 1915.—Cacciamali, G. B., 2.

——. ——. Edolo. Region to S.W. 1 : 100,000. 1918.—Henny, G., 3.

——. ——. Magenta area. 1 : 75,000. 1914.—Airaghi, C., 1.

——. ——. Val Sabbia, Vobarno Idro area. 1 : 75,000. 1915.—Bonomini, C., 1.

——. Monte Fumaiolo & neighbourhood. 1 : 50,000. 1916.—Lotti, B., 4.

——. Northern. Moraine-walls & Lake-basins (*various*). 1915.—Preller, C. S. du R., 3.

——. Parma. Neighbourhood of Traversetolo. 1 : 50,000. 1915.—Anelli, M., 1.

——. Piedmont. Area S. of Brusson. 5 cm. = 1 kilometre. 1916.—Reinhold, T.

——. ——. Collina di Torino. 1 : 100,000. 1916.—Zuffardi, P., 2.

EUROPE.

ITALY. Piedmont. Maledia Glacier. 1 : 3,000. 1914.—Roccati, A., 1.

——. ——. Maritime Alps. 1 : 2,000,000. 1916.—Preller, C. S. du R., 5.

——. ——. Miage Glacier. 1 : 10,000. 1914.—Porro, F., 1; (Moraines). 1 : 10,000. 1918.—Sacco. F', 6.

——. ——. Mont Blanc Glaciers, Italian side. 1 : 50,000. 1919.—Sacco, F., 10.

——. ——. Monte Cervino (Glaciers). 1 : 35,000. 1918.—Sacco, F., 5.

——. ——. Pleistocene Glacier fronts. 1916.—Novarese, V., 2.

——. ——. Ruitor Glacier. 1 : 12,000 *approx.* 1917.—Sacco, F., 4.

——. ——. Ruitor Lake Basins & Glacier. 1 : 18,750. 1918.—Preller, C. S. du R., 13.

——. ——. Val d'Aosta & Valleys of the Canavese (Wurmian Glaciers). 1 : 250,000. 1915.—Novarese, V., 1.

——. —— & Lombardy. Po R. Basin. 1 : 1,000,000; Turin dist. 1 : 50,000; Venaria & Pavia dists. 1 : 25,000. 1915.—Stella, A.

——. Roma. Lake of Bolsena. 1914.—Simotomai, H., 1.

——. Tuscany. Apuan Alps. Carrara Marble dist. 1 : 250,000. 1915.—Preller, C. S. du R., 4.

——. Umbria. Monte Martano. 1 : 100,000. 1917.—Lotti, B., 6.

——. ——. Plateau of Citta della Pieve. 1 : 500,000. 1919.—Verri, A., 2.

——. Venetia. Longarone area, Venetian Alps. 1 : 50,000. 1914.—Boyer, G. R.

——. ——. Pre-Adriatic Gulf. 1917.—Stefanini, G., 1.

——. ——. "Quartier di Piave." 1 : 150,000. 1914.—Toniolo, A. R.

LAPPLAND (Glaciation) (*various*). 1915.—Tanner, V.

——. Porjus area. 1 : 200,000. 1919.—Geijer, P., 13.

NORWAY. Aardal, Upper (Terraces). 1 cm. = 200 metres. 1915.—Rekstad, J., 5.

——. Braastad R. Valley N. of Gjövik. 1 : 30,000. 1915.—Braastad, J.

——. Bulandet & Værlandet Is. 1 : 50,000. 1916.—Kolderup, C. F., 8.

——. Distribution of Devonian. 1915.—Kolderup, C. F., 6; Nathorst, A. G., 2.

EUROPE.

NORWAY. Egersund dist. 1:100,000. 1914.—Kolderup, C. F., 1.

——. Fæmund & neighbourhood. 1 cm. = 20 kilometres. 1914.—Schiœtz, O. E.

——. Fauske–Junkerdalen area. 1 : 200,000. 1917.—Rekstad, J., 11.

——. Finmark. 1 cm. = 25 kilometres. 1919.—Holtedahl, O., 7.

——. ——. Alten area. 1 cm. = 4 kilometres. 1915.—Holtedahl, O., 3.

——. Fiords (*various*). 1916.—Gaarder, T., 1.

——. Granite areas (*various*). 1916.—Oxaal, J., 6.

——. Grimstad–Tvedestrand area. 1919.—Sulong, H.

——. Grönli Cavern in Rödvasdal. 1 : 1,000. 1914.—Oxaal, J., 2.

——. Hegeland. Southern portion. 1 cm. = 3 kilometres. 1915.—Rekstad, J., 6.

——. Helgeland & Salten. 1 cm. = 18 kilometres. 1914.—Vogt, T., 1.

——. Hitteren & Smölen Is. 1 cm. = 6 kilometres. 1914.—Reusch, H., 3.

——. Jotunfjeld area. 1 cm. = 4 kilometres. 1916.—Goldschmidt, V. M., 1.

——. Kalkedal (Ice-dammed Lakes). 1 cm. = 2 kilometres. 1917.—Holmsen, G., 4.

——. Kristianiafjord – Mjösen area (Moraines). 1 : 1,512,500. 1916.—Œyen, P. A., 8.

——. Nordland. Kjerringöy & Sörfolden. 1 : 200,000. 1917.—Holmsen, G., 7.

——. Northern (Glacial contours). 1 inch = 50 kilometres. 1915.—Enquist, F., 1.

——. Öieren area. 1 cm. = 20 metres. 1916.—Holtedahl, O., 4.

——. Österdal (Terraces). 1 : 300,000. 1917.—Reusch, H., 11.

——. ——. Northern portion. 1 : 200,000. 1917.—Holmsen, G., 6; Ice-dammed Lakes. 1 : 400,000. 1915.—Holmsen, G., 1.

——. Österdal–Fæmund dist. 1 : 400,000. 1915.—Holmsen, G., 2.

——. Randsfjord. 1 cm. = 1½ kilometre. 1915.—Holtedahl, O., 2.

——. Ranenfjord, Upper. 1 cm. = 8 kilometres. 1915.—Oxaal, J., 4.

——. Sætersdal–Ringerike area. 1 : 400,000. 1912.—Werenskiold, W., 1.

EUROPE.

Norway. Saltdal–Dunderlandsdal area. 1 : 200,000. 1913.—Rekstad, J., 1.

——. Sogn dist. 1 : 300,000. 1914.—Oxaal, J., 1.

——. Sogn–Böverdal area. 1 cm. = 2 kilometres. 1914.—Rekstad. J., 2.

——. Solör. Ramsöy Iron-ore deposit (Magnetometric Chart). 1 : 1,200. 1914.—Foslie, S.

——. Sörfjord–Samnangerfjord area. 1 : 25,000; Coast-Arches of Western Norway. 1915.—Kolderup, C. F., 3.

——. Southern portion (Deformation). 1 cm. = 43 kilometres. 1917.—Goldschmidt, V. M., 2.

——. ——. 1 : 500,000. 1914.—Werenskiold, W., 2.

——. ——. Distribution of Building Stone. 1 : 5,000,000. 1914.—Oxaal, J., 3.

——. ——. Occurrence of Limestones. 1 cm. = 2 kilometres. 1917.—Holtedahl, O., 6.

——. Tryssil area. 1 : 800,000. 1914.—Reusch, H., 2.

——. Vega dist. 1 : 250,000. 1917.—Rekstad, J., 9.

——. Vesteraalen. 1 : 800,000. 1917.—Vogt. T., 3.

Poland. Plateau of Little Poland. 1 : 504,000. 1916.—Lencewicz, S.

——. Upper Silesia, Industrial district. 1 : 60,000. 1892. By — Kuentzel.

——. ——. Beuthen Basin. 1 : 25,000. 1892. — By — Kuentzel.

Portugal. Geological Formations & Earthquakes. 1 : 1,500,000. 1914; & 1 : 2,250,000. 1917.—Sousa, F. L. P. de, 1 & 2.

——. Rio Tamega Valley (Mineral Springs). 2 cm. = 3 kilometres. 1917.—Choffat, P., 6.

——. Setúbal. Pedra Furada. 1 : 5,000. 1915.—Costa, A. I. Marques da.

——. Torres Vedras area. 1 : 20,000. 1914.—Choffat, P., 1.

Roumania. Anticlinal of Băicoi. 1 : 40,000. 1915.—Botez, G., 4.

Russia. Central Caucasus. 1 cm. = about 1 kilometre. 1913.—Loewinson-Lessing, F., 2; (Volcanoes). 1 : 168,000. 1915.—Loewinson-Lessing, F., 5.

——. ——. Adai–Khorkh Group. 1 : 125,000. 1915.—Raeburn, H.

——. East Baltic area (Glaciation). 1 : 6,000,000. 1912.—Hausen, H., 2.

——. Ekaterinburg dist. (part). 2 cm. = about 1 kilometre. 1916.—Clerc, M. O.

EUROPE.

Russia. Glacial Hydrography. 1917.—Hœgbom, A. G., 7.

——. Maikop Oilfield. 1915.—Calder, W.

——. Ural Mts. Khrebet–Salatin. 1 : 210,000. 1916.—Duparc, L., 2.

——. ——. Verkhne–Ufalei Mining dist. 1 cm. = 1 mile. 1915.—Turner, H. W., 2.

Sardinia. North-Western portion. 1914.—Deprat, J., 1.

——. Nuoro area. 1 cm. = 5 kilometres. 1916.—Blengino, A., 1.

——. Oliena area. 1 : 50,000. 1919.—Blengino, A., 2.

Scandinavia. Distribution of *Mysis relicta*. 1917.—Hœgbom, A. G., 7.

——. North-West (Glaciation). 1 : 1,000,000. 1919.—Enquist, F., 3.

Spain. Alicante. 1 : 400,000. 1915.—Novo, P.

——. Almeria. Peat deposits, Roquetas. 1 cm. = 260 metres. 1918.—Rubio, J. M., 1.

——. ——. Sierra de los Filabres. 1 : 200,000; Seron & Bacares Mines. 1 : 40,000; "Menas" Mine. 1 : 5,000. 1915.—Sierra, A. de.

——. Asturias. 1 : 400,000 & 1 : 800,000; Iron-ore zone. 2 cm. = 2½ kilometres. 1916.—Adaro, L. de.

——. ——. Arnao area (Folded Carboniferous). 1 : 20,000. 1918.—Termier, P., 6.

——. ——. Luarca district 1 : 127,500. 1916.—Sampelayo, P. H., 3.

——. Bilbao area (Iron-ores). 1 cm. = 1½ kilometre. 1915.—Grosch, P.

——. Burgos. Coalfield. 1 : 75,000. 1918.—Lozano, R. S., 1.

——. Cadiz. Depression of La Janda. 1 cm. = 3½ kilometres. 1915.—Hernandez-Pacheco, E., 2.

——. ——. Serrania de Grazalema. 1 : 50,000. 1918.—Gavala, J.

——. Canary Is. Gomera I. 1 : 165,000. 1918.—Navarro, L. F., 10.

——. Catalonia. Bauxite deposits. 1919.—Calatayud, J. R. B.

——. ——. Montserrat & neighbourhood. 1916.—Faura, M.

——. ——. Potash Salt deposits. 1 : 150,000 & 1 : 20,000. 1918.—Rubio, C.

EUROPE.
SPAIN. Granada. Arenas del Rey (Lignite deposits). 1 cm. = 1 kilometre. 1918.—Alvarado, A. de.
——. ——. Benamaurel (Sulphur deposits). 1 : 20,000 & 1 : 100,000. 1918.—O'Shea, W.
——. ——. Molybdenum occurrence. 1 : 250,000. 1918.—Rubio, J. M., 3.
——. Guadalajara. Termino de Cañamares. 1 : 25,000. 1918.—Ranz, M.
——. —— & Teruel (Iron-ores). 1 : 800,000, 1 : 50,000 & 1 : 20,000. 1916.—Kindelan, V.
——. Los Oscos dist. 1916.—Sampelayo, P. H., 2.
——. Lugo Province. 1915.—Sampelayo, P. H., 1.
——. Malaga. La Ronda area. 1 : 200,000. 1916.—Duparc L., 2.
——. ——. Serrania de Ronda. 1 : 100,000. 1917.—Orueta, D. de, 1.
——. Murcia. Lorca & Cieza areas. 1 : 200,000. 1917.—Dupuy de Lome. E., 4.
——. Sierra Menera (Iron Mines). 1916.—Callen, A. S.
SWEDEN. Ångermanland (part). 1 : 1,000,000; Lochsta & Apsele dists. 1 : 75,000; Dunes, N. portion (*various*). 1917.—Sandler, K.
——. Bohus. Coast belt. 1 : 250,000. 1917.—Antevs, E., 8.
——. Bornhufud, Mälar Lake. 1 : 15,000. 1915.—Tamm, O., 2.
——. Dalarne. Dal R. Basin. 1 : 6,000. 1914.—Geer, S. de, 3.
——. ——. District N. of Orsa. 1 : 300,000. 1916.—Loostrœm, R., 1.
——. Dalsland. Dal's Ed. 1 : 10,000 & 1 : 25,000. 1909.—Geer, G. de, 1.
——. Earthquake centres, 1911–12. 1 cm. = 20 kilometres. 1914.—Sahlstrœm, K. E., 1.
——. Fågelsång dist. (Terraces). 1 : 50,000. 1917.—Bobeck, O.
——. ——. Hardeberga. 1 : 20,000. 1917.—Troedsson, G. T.
——. Falun area. 1 : 50,000. 1917.—Geijer, P., 5.
——. Furuholm area. 1 : 200,000. 1917.—Johansson, S., 4.
——. Geological Survey. Sheets Eksjö, Otterbäcken, Töreboda & Furuholm. 1 : 50,000. 1912–17.
——. Gotland (part). 1 : 100,000. 1919.—Hede, J. E., 4.
——. ——. Fluvio-glacial erosion. 1 : 100,000 & 1 : 50,000. 1914.—Munthe, H., 1.

EUROPE.
SWEDEN. Gotland. Klintehamn area. 1 cm. = 1 kilometre. 1918.—Hede, J. E., 2.
——. Halland. Båstad area. 1 cm. = 2 kilometres. 1916.—Wiman, C., 5.
——. ——. Brandshult (Glacial deposits). 1 cm. = 100 metres. 1916.—Bodman, G.
——. Hammarfjället (Moraines). 1 : 100,000. 1915.—Frœdin, G., 3.
——. Helsingland. Peat-mosses. 1 : 400,000. 1918.—Halden, B. E., 3.
——. Jukkasjärvi area. 1 : 1,000,000. 1918.—Geijer, P., 8.
——. Jemtland (part). 1 cm. = 3 kilometres. 1916.—Frœdin, G., 5.
——. ——. North-Western portion (Glaciation). 1 : 100,000 & 1 : 200,000. 1914.—Frœdin, G., 2.
——. ——. Östersund area. 1 : 200,000. 1916.—Frœdin, G., 6.
——. ——. Ragundatal. 1 : 100,000; Storlien. 1 : 10,000; Central Jemtland. 1 : 250,000. 1909.—Hœgbom, A. G., 1.
——. ——. South-Western portion. 1 : 200,000; Grönklumpen Hills. 1 : 20,000. 1914.—Eriksson, K.
——. Jönköping. Eksjö area. 1 : 200,000. 1917.—Hedstrœm, H., 5.
——. Käfling dist. 1 : 50,000. 1917.—Hadding, A., 4.
——. Kattegat. Northern portion. 1 : 1,500,000. 1915.—Andersson, G.
——. Nautanen area. 1 : 200,000. 1917; 1 : 150,000. 1918.—Geijer, P., 6 & 9.
——. Norrbotten. Lule R. Basin (*various*). 1914.—Frœdin, J., 1.
——. ——. Vittangi Ore Region. 1 : 100,000. 1919.—Geijer, P., 12.
——. Örebro. Otterbäcken area. 1 : 200,000. 1916.—Sandegren, R., 6.
——. Östergotland. Alvastra Marsh (Post-Glacial development). 1 : 4,000. 1916.—Post, L. von, 6.
——. ——. Bersbo area. 1 : 25,000. 1917.—Svenonius, F., 3.
——. Retreat of Ice border (*various*). 1915.—Frœdin, G., 4.
——. Scania. 1 : 800,000. 1914.—Grœnwall, K. A., 1.
——. ——. Kaolin & Limestone localities. 1 : 200,000. 1915.—Grœnwall, K. A., 2.

EUROPE.

Sweden. Scania. North-East (Recession of Land-ice). 1 : 150,000. 1915.—Antevs, E., 5.

——. ——. North - West. 1 : 350,000; Hofs Hallar. 1 : 3,000. 1916.—Ahlmann, H. W., 3.

——. ——. Skarhult area. 1 : 100,000. 1919.—Hede, J. E., 3.

——. Smaland. Area S. of Alstern. 1 : 100,000. 1917.—Svenonius, F., 2.

——. South-Eastern (Archæan Rocks). 1 : 2,300,000. 1916.—Holmquist, P. J., 2.

——. Stockholm. Åsby area. 1 : 400,000. 1919.—Loostrœm, R., 2.

——. ——. Cliff forms. 1 : 400. 1914.—Sahlstrœm, K. E., 2.

——. Toarps Glacial Lake. 1 : 100,000. 1918.—Sandegren, R., 4.

——. Töreboda area. 1 : 200,000. 1915.—Westergard, A. H., 2.

——. Tyust. Gamleby area. 1 : 200,000. 1914.—Svenonius, F., 1.

——. Upland (part). 1 : 800,000. 1915.—Geijer, P., 1.

——. ——. Odensala (Ice-recession & Terminal moraines). 1 : 20,000. 1915.—Anrick, C. J., 1.

——. ——. Ramhäll area. 1 : 50,000; Upland Leptite Region. 1 : 300,000. 1917.—Lindroth, G. T., 1.

——. ——. Upsala area. 1 : 100,000. 1916.—Frœdin, G., 6.

——. ——. Glacial & post-Glacial deposits near Upsala. 1 cm. = 50 metres. 1909.—Gustafsson, J. P.

——. ——. Ultuna Estate near Upsala. 1 : 4,000. 1917.—Johansson, S., 3.

——. —— & Södermanland (parts). 1 cm. = 4 kilometres. 1916.—Geijer, P., 3.

——. Vanern (post-Glacial deposits). 1 : 180,000. 1917.—Sandegren, R., 3.

——. Vesterbotten. Coastal area. 1 : 1,500,000. 1918.—Geer, S. de, 4.

——. Vestergötland. Holmestad area. 1 : 50,000. 1916.—Frœdin, G., 6.

——. Vestmanland. Norberg area. 1 : 200,000. 1918.—Lindroth, G. T., 2.

Switzerland. Aagauer Tafeljura. 1 : 100,000. 1918.—Vosseler, P.

——. Alpine contours. 1:2,000,000. 1914.—Niethammer, T.

EUROPE.

Switzerland. Basel & neighbourhood. 1 : 200,000. 1914.—Braun, G., 1.

——. Equal Density curves. 1:2,000,000. 1918.—Heim, Alb., 8.

——. Jura Lakes (*various*). 1915.—Preller, C. S. du R., 2.

——. Kandertal between Frutigen & Kandersteg. 1 : 50,000. 1915.—Adrian, H.

——. Lucerne & Zug Lakes. 1 : 400,000; Zonal Lake-basins. 1 : 2,000,000. 1915.—Preller, C. S. du R., 1.

——. Maisprach area. 1 : 25,000. 1915.—Suter, R.

——. Montreux area. 1 : 25,000. 1918.—Henny, G., 2.

——. Post-Carboniferous Coal-seams (*various*). 1919.—Wehrli, L.

——. Rhine Valley between Rheinfelden & Augst. 1 cm. = 400 metres. 1914.—Disler, C.

——. Rhine Valley between Waldshut & Basel. 1 : 200,000. 1917.—Braun, G., 2.

——. Rhone Glacier (*various*). 1916.—Mercanton, P. L., 1.

——. Rhone & Aletsch Glaciers (post-Glacial Moraines). 1919.—Swiderski, B.

——. St. Bernard Pass & neighbourhood (Misoxer Synclinal). 1 : 50,000. 1918.—Heydweiller, E.

——. Sernft Valley, Glarus. 1918.—Jenny, F., 2.

——. Splügen Tunnel. 1 : 25,000. 1914.—Vercelli, F., 1.

——. Staffelegg Region, E. Jura. 1 : 25,000. 1915.—Amsler, A.

——. Tessin. 1 : 50,000. 1916.—Frauenfelder, A.

——. ——. Area between Lago Maggiore & Melezza (Centovalli). 1 : 25,000 & 1 : 100,000. 1915.—Radeff, W. G.

——. ——. Val Formazza. 2½ cm. = 1 kilometre; Upper Leventina. 1 cm. = 450 metres. 1917.—Preiswerk, H., 2.

——. Uto Mt. & neighbourhood. 1 cm. = 1½ kilometre. 1914.—Heim, Alb., 1.

——. Val Piora, Lepontine Alps. 1 : 50,000. 1918.—Krige, L. J.

——. Valais. Area between the Trient & Salanfe Valleys. 1 : 25,000. 1916.—Meyer, J.

GREAT BRITAIN.

England & Wales. Avonian Shore-lines. 1 inch = 75 miles. 1916.—Vaughan, A., 2.

——. Geological Survey. Thicknesses of Strata (*various*). 1916.—Strahan, Sir A., 13.

GREAT BRITAIN.

England & Wales. Berkshire & Surrey. Geological Survey. Windsor–Chertsey area. 1 inch = 4 miles; Bourne Valley. 3 inches = 2 miles. 1915.—Dewey, H., 8.

——. Carnarvonshire. St. Tudwal's Peninsula. 4 inches = 1 mile. 1915.—Nicholas, T. C., 1.

——. ——. Trefriw Pyrites deposit. 6 inches = 1 mile. 1918. —Sherlock, R. L., 5.

——. Cumberland. Lake District. 1 inch = 1 mile. 1916.—Green, J. F. N., 4; 1 inch = 4 miles. 1916.—Marr, J. E., 2.

——. Durham, S.E. (Glaciology). 1 inch = 2 miles. 1915.—Trechmann, C. T., 1.

——. Essex. Part of London Basin. 1 inch = 10 miles. 1915. —Boswell, P. G. H., 2.

——. ——. Geological Survey. Underground Water-level in Chalk. 1 inch = 2 miles; Chlorinated & Alkaline Well-waters. 1 inch = 4 miles; Rainfall map. 1 inch = 10 miles. 1916.—Whitaker, W., 8.

——. Glamorgan. District between Ewenny Valley & Ebbw Valley. 2 inches = 1 mile. 1917.—Dixey, F., 2.

——. Gloucestershire. District between Over & Tytherington. 1 inch = 1 mile. 1914.—Reynolds, S. H., 6.

——. Hampshire. Geological Survey. Bournemouth district. 1 inch = 4 miles. 1917.—White, H. J. O., 2.

——. ——. ——. Headon Beds near Lymington. 1 inch = 2 miles approx. 1915.—White, H. J. O., 1.

——. Kent. Geological Survey. Buried Jurassic Formations. 1 inch = 5 miles. 1917.—Lamplugh, G. W., 3.

——. Lancashire. Grange & Furness area. 1 inch = 1 mile. 1916.—Garwood, E. J., 1.

——. Monmouthshire. Silurian Inlier of Usk. 1 inch = 1 mile. 1917.—Gardiner, C. I., 3.

——. Montgomeryshire. Machynlleth district & Llyfnant Valley. 3 inches = 1 mile. 1915. —Jones, O. T.

——. Northamptonshire. Irthlingborough district. 1 inch = 1 mile. 1919.—Cox, A. H., 7.

——. Nottinghamshire. District round Melton Mowbray & Nottingham. 1 inch = 4 miles. 1919.—Cox, A. H., 7.

GREAT BRITAIN.

England & Wales. Pembrokeshire. Abereiddy & Abercastle district. 4 inches = 1 mile. 1915. —Cox, A. H., 1.

——. ——. Geological Survey. Haverfordwest area (*various*). 1914.—Strahan, Sir A., 10.

——. Radnorshire. Old Radnor Inlier. 6 inches = 1 mile. 1918. —Garwood, E. J., 3.

——. Shropshire. 1 inch = 8 miles. 1919.—Watts, W. W., 4.

——. ——. Bucknell district. 2 inches = 1 mile. 1918.—Stamp, L. D.

——. ——. Wyre Forest Coalfield. 1 inch = 2 miles. 1917.—Kidston, R., 4.

——. Somersetshire. District between Clifton & Clevedon. 1 inch = 1 mile. 1918.—Reynolds, S. H., 5.

——. South Wales Coalfield. Distribution of Anthracite. 1 inch = 4 miles. 1915.—Strahan, Sir A., 11.

——. Staffordshire. Geological Survey. Lichfield area. 1 inch = 4 miles. 1919.—Barrow, G., 8.

——. Surrey. Zones of the Chalk, Wells & Water-levels. 1 inch = 1 mile. 1915.—Dewey, H., 3.

——. Warwickshire. District between Nuneaton & Atherstone. 4 inches = 1 mile. 1915.—Illing, V. C., 1.

——. Westmorland. Carboniferous. 1 inch = 1 mile. 1916.—Garwood, E. J., 1.

——. Yorkshire. Hackness Hills District (Stratification). 5 inches = 1 mile. 1832.—By William Smith.

——. ——. Newbald area (Hydrogeology). 1 inch = 1100 feet. 1915.—Griffith, P.

Scotland. Aberdeen. Glacial deposits between Stonehaven & Fraserburgh. 1 inch = 10 miles. 1916.—Bremner, A., 4.

——. ——. Strathbogie (Igneous Rocks). 1 inch = 4 miles. 1919.—Read, H. H.

——. Argyll. I. of Mull. Ben More (Lavas). 1 inch = 1 mile. 1916.—M'Lintock, W. F. P.

——. ——. ——. Felsitic Ring-dyke, Loch Ba; & distribution of Pillow-lavas. 1 inch = 1 mile. 1915.—*See* Great Britain, 12.

——. ——. Islay, Jura, &c. 1 inch = 4 miles. 1916.—Bailey, E. B., 1.

——. Banffshire. Igneous Rocks & Andalusite Schist. 1 inch = 4 miles. 1919. *See* Great Britain, 16.

GREAT BRITAIN.

SCOTLAND. Central Coalfield. Geological Survey. Area II. 1½ inch = 4 miles. 1917.—Hinxman, L. W., 2; Area V. 1 inch = 3 miles. 1916.—Clough, C. T., 2; Area VIII. 1 inch = 2 miles. 1917.—Carruthers, R. G., 5.

——. Edinburgh. Wardie Shale Series. 2 inches = 1 mile. 1916. —Tait, D., 2.

——. Glasgow District. 3 inches = 16 miles. 1915.—Gregory, J. W., 8.

——. Highlands (Geological structure). 1 inch = 6½ miles; Strathmore. 1 inch = 10 miles. 1908.—Macnair, P., 1.

——. Inverness. Ben Nevis & Glen Coe (*various*). 1916.—Bailey, E. B., 4.

——. ——. Geological Survey. Glen More & part of Strathspey. 1 inch = 2 miles. 1915.—Hinxman, L. W., 1.

——. Lanark. The Kames of Carstairs. 1½ inch = 1 mile. 1915.—Gregory, J. W., 16.

——. Lothians. Oil-shale fields. 1 inch = 5 miles. 1916.—Craig, E. H. C., 2.

——. Perth. Aberfoyle area. Highland border Rocks. 3 inches = 1 mile. 1918.—Jehu, J. T., 3.

——. ——. Geological Survey. Tyndrum area. 1 inch = 1 mile. 1919.—*See* GREAT BRITAIN, 16.

——. South Bute. Igneous Rocks. 6 inches = 1 mile. 1916.—Smellie, W. R., 4.

IRELAND. Dublin. Rush-Skerries Carboniferous section. 3 inches = 1 mile. 1915.—Smyth, L. B.

——. Mayo. Clare Island. 3 inches = 1 mile. 1915.—Praeger, R. L., 1.

——. North-East. Concealed Coalfields. 1 inch = 17 miles. 1919.—Wright, W. B., 4.

OCEANICA. Fiji. Lau Islands. 1 inch = 8 miles & 1 inch = 3 miles. 1917.—Foye, W. G., 4.

——. Hawaii. Mauna Loa. 1 inch = 3 miles. 1917.—Jaggar, T. A., *fil.*, 3.

——. Society Islands. Tahiti. Papenoo Valley. 1 cm. = 1 kilometre. 1915.—Marshall, P., 1.

WORLD. Continental Shelf. 1918.—Cotton, C. A., 5.

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Maps, construction of.—Hinks, A. R. 1; Reeves, E. A., 1.

——, geological. Evans, J. W., 6; Dwerryhouse, A. R.; Sheppard, T., 10.

Maquoketa beds, Iowa.—Slocom, A. W.

Maranboy Tin-field (Australia).—Gray, G. J., 2.

Marble, Alabama.—Prouty, W. F.

——, Carrara.—Bonney, T. G., 5 & 10; Preller, C. S. du R., 4.

——, Highlands (Scotland).—Bates, G. F., 1.

——, New York.—Newland, D. H., 2.

——, New Zealand.—Henderson, J., 7; *see also* NEW ZEALAND, 4 & 6.

——, Spitsbergen.—Renwick, W.G., 2.

——, Tennessee.—Gordon, C. H.

——, Venetia.—Anon., 102.

——, Vermont.—Dale, T. N., 1.

——, imperfections & quarrying of.—Bowles, O., 1 & 2.

——, weathering of.—Merrill, G. P., 7.

Marble industry.—Renwick, W. G., 1.

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Marcasite.—Blatchford, T., 2; Greenwood, H. W., 1.

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Marcia.—Cossmann, M., 1; Dickerson, R. E., 6; Waring, C. A.

Marden Park (Surrey).—Whitaker, W., 1.

Margarites.—Dall, W. H., 2 & 5.

Margaritifera.—Newton, R. B., 1.

Margarosanite.—Flink, G., 5; Ford, W. E., 9.

Margarya.—Annandale, N., 1.

Marginella.—Chapman, F., 16; Dall, W. H., 2 & 5; Dickerson, R. E., 9; Pilsbry, H. A., 3.

Marginifera.—Diener, C.; Girty, G. H., 1.

Marginulina.—Chapman, F., 18.

Marianas Is. (Pacific).—Masó, M. S.

Mariania.—Lambert, J., 3.

Marienberg (Bohemia).—Becke, F., 1; Hibsch, J. E., 2.

Marine band, in Coal measures, S. Lancashire.—Sherlock, R. L., 1.

—— beds, Hainault Coal-field.—Stainier, X., 2 & 4.

—— ——, Carboniferous.—Bertrand, P., 10.

—— clay, moraines &.—Bjœrlykke, K. O.

—— organisms, dispersion of.—Pelseneer, P.

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MARINI, G., *Obit.*—*See* Neviani, A., 2.
Mariposa Formation, California.—Moody, C. L., 2.
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—— Provs. (Canada).—Parks, W. A., 1.
Märjelensee (Switzerland).—Luetschg, O., 1 & 3.
Marjumia.—Walcott, C. D., 5.
Market Weighton (Yorks.).—Gibson, W., 2.
MARKHAM, Sir C. R., *Obit.*—*See* Freshfield, D. W., 2; *&* Keltie, J. S.
Marlborough, Prov. (N.Z.).—Thomson, J. A., 9; Wild, L. J., 1.
Marles (Pas-de-Calais).—Pruvost, P., 8.
Marls, E. France, Jurassic.—Joly, H.
——, Gotland, Silurian.—Hede, J. E., 2.
——, N. Staffordshire.—Stobbs, J. T., 3.
——, Victoria.—Keble, R. A., 1.
——, Yukon Terr.—Cairnes, D. D., 8.
——, post-Glacial.—Baker, F. C.
——, Thanetian.—Dollfus, G. F., 2.
Marmora, Sea of.—Arabu, N., 1–8; Yélénko, M.
Marmorie (Italy).—Fossa-Mancini, E., 4.
Marne, Dept. (France).—Charpiat, R., 4–6, 10 & 12.
Marocypris.—Chapman, F., 3 & 16.
Marong Goldfield (Victoria).—Whitelaw, H. S., 4.
MARR, J. E., *Biogr.*—*See* Anon., 63.
Marsdiep (Holland).—Versluys, J.
Marseilles Basin (S. France).—Repelin, J., 6 & 7.
MARSHAM, Hon. R., *Obit.*—*See* Woodward, A. S., 8.
Marshes, Denmark,—Jessen, A., 1.
——, Germany.—Potonié, H.
——, Poitevin.—Welsch, J., 3 & 4.
——, Sweden.—Post, L. von, 6.
——, Switzerland.—Monnier, A.
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Marsupials, origin of the.—Gidley, J. W., 1.
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—— Chalk, Brighton.—Brydone, R. M., 1.
Martani Mts. (Umbria).—Principi, P., 5.
Martes.—Sinclair, W. J., 2.
Martigues (France).—Dehorne, Y., 6 & 9.
Martinez Formation, California.—Dickerson, R. E., 1–3 & 10; Waring, C. A.
Martinia.—Branson, E. B., 5; Girty, G. H., 3; Molengraaff, G. A. F., 4; Trechmann, C. T., 3; Weller, S., 1.
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Maryborough Series, Queensland.—Walkom, A. B., 4.
Maryland (U.S.A.).—Bassler, R. S., 2.
——, ore deposits.—Butler, B. S., 8; Hewett, D. F., 3; Overbeck, R. M.; Singewald, J. T., *fil.*, 1; Tolman, C. F., *fil.*, 1.
Marysvale (Utah).—Loughlin, G. F., 2.
Marysville (Montana).—Goodale, C. W.
Marysville Buttes (California).—Dickerson, R. E., 8.
Maryvillia.—Walcott, C. D., 5.
Masculostrobus.—Mœller, H.
Maskelynite, in meteorites.—Merrill, G. P., 14.
Masritherium.—Fourtau, R., 5.
Massa (Tuscany).—Preller, C. S. du R., 4.
Massachusetts (U.S.A.).—Emerson, B. K., 1 & 2.
—— Bay.—Bigelow, H. B., 1.
Massilina.—Chapman, F., 18.
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——, migrations of.—Joleaud, L., 6.
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Matachewan dist. (Ontario).—Burrows, A. G., 4; Cooke, H. C., 6.
Matanuska Valley (Alaska.)—Knowlton, F. H., 5.
Mataxa.—Wade, B., 2.
Materials of different specific gravities, separation of.—Chance, T. M.
Matonidium.—Cockerell, T. D. A., 11.
Matringhem (Pas-de-Calais).—Bertrand, P., 2.
Matrix reef (Victoria).—Whitelaw, H. S., 3.
Mauch Chunk (Pennsylvania).—Wherry, E. T., 1.
Mauchline (Ayrshire).—Tyrrell, G. W., 4.
Maukwadi (Ashanti).—MacDonald, D. J.
Mauna Loa, volcano (Hawaii).—Jaggar, T. A., *fil.*, 1–3; Powers, S., 4; Wood, H. O., 2 & 3.
Maungatautari, volcano (N.Z.).—Henderson, J., 3.
Maxillirhynchia.—Buckman, S. S., 4.
Maxville Limestone, Ohio.—Lamb, G. F.
Maxwelton Goldfield (Queensland).—Ball, L. C., 7.

May-sur-Orne (Normandy).—Mazetier, G.
Mayari dist. (Cuba).—Kemp, J. F., 1.
Mayo dist. (Yukon Terr.).—Cairnes, D. D., 7 & 8.
Mazán (Argentina).—Keidel, H.
Mazapilite.—Doelter, C., 1.
Mazatzal Range (Arizona).—Ransome, F. L., 1.
MEADE, T. DE C., *Obit.*—*See* Harker, A., 4.
Mealhada (Portugal).—Fontes, J., 3.
Meanook (Alberta).—Jackson, W. E. W., 2.
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——, origin of the.—Ojeda, L. T., 1.
——, Western shore-line.—Lamothe, L. de, 3.
—— Tertiary province.—Savornin, J., 1.
Medusina.—Braastad, J.
Medway Valley (Kent).—Dibley, G. E., 1.
Meekatharra, Murchison G. F. (Western Australia).—Clarke, E. de C., 3.
Meekella.—Branson, E. B., 5; Mansuy, H., 2.
Meekospira.—Girty, G. H., 1.
Megacerops.—Osborn, H. F., 6.
Megagnatha.—Bolton, H., 3; Tillyard, R. J., 9.
Megalanteris.—Gortani, M., 3; Williams, H. S., 2.
Megalaspis.—Slocom, A. W.
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Megalichthys.—Gregory, W. K., 1.
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—— ——, ancient mines &.—Perry, W. J.
Megalodon.—Das-Gupta, H. C., 2; Spriestersbach, J.; Trechmann, C. T., 2.
Megalomastoma.—Cossmann, M., 1.
Megalomus.—Williams, M. Y., 11.
Megalonyx.—Hay, O. P., 1; Sellards, E. H., 4; Stock, C., 5.
Megalopteris.—Stopes, M. C., 1.
Megalurus.—Vidal, L. M.
Megambonia.—Williams, H. S., 2.
Meganos Group, California.—Clark, B. L., 4.
Megapenthes.—Wickham, H. F., 1.
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Megathyridæ, origin & growth of the.—Morgan, J. de, 4.
Mekong Valley (Yünnan).—Brown, J. C., 7.
Melampus.—Morgan, J. de, 3.
Melanchlore.—Doelter, C., 1.
Melanella.—Dall, W. H., 2.
Melania.—Dickerson, R. E., 5; Roman, F., 2.
Melaniidæ, Pliocene.—Cerulli-Irelli, S., 1.
Melanocerite.—Doelter, C., 2; Zambonini, F., 5.
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Melanopsis.—Cerulli-Irelli, S., 1; Cossmann, M., 1.
Melanostibiane.—Doelter, C., 1.
Melanotekite.—Flink, G., 4; Hedstrœm, H., 2.
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——, Pyrenees.—Caralp, J.
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Meleagrina.—Cossmann, M., 7.
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Melilite.—Clarke, F. W., 4; Schaller, W. T., 3.
Meliosma.—Reid, C., 6.
Mell Fell (Cumberland).—Green, J. F. N., 8.
Mellita.—Clark, W. B., 3.
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Meloceras.—Parks, W. A., 2.
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Melongena.—Anderson, F. M.; Dall, W. H., 2.
Membranipora.—Brydone, R. M., 2, 3 & 5; Canu, F., 4; Lecointre, G., 1.
Membraniporella.—Brydone, R. M., 2, 3 & 5; Lecointre, G., 1.
Membraniporidra.—Canu, F., 11.
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Menado (E. Indies).—Komorowicz, P. M. Baron von.
Mendip Hills (Somerset).—Baker, E. A.; Reynolds, S. H., 1.
Menez-Bel-Air (Côtes-du-Nord).—Kerforne, F., 4.
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——, extraction of.—Carrara, G.; Holland, C. H.
—— ore, analysis of.—Heath, R. F.
—— ——, secondary enrichment of. —Broderick, T. M., 1.
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Meridensia.—Andersson, E., 2.
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Merista.—Gortani, M., 3.
Meristella.—Mansuy, H., 1; Reed, F. R. C., 4; Williams, H. S., 2.
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Mersey, R. (England).—Field, Sir A. Mostyn.
—— (Tasmania).—Dun, W. S., 1; Gould, C.
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Merville (Nord).—Pruvost, P., 6.
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Merycochœrus.—Merriam, J. C., 15.
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Mesa Verde (Colorado).—Fewkes, J. W.
Mesabi Range (Minnesota).—Broderick, T. M., 5; Grout, F. F., 8 & 9; Wolff, J. F.
Mesalia.—Greco, B., 3.
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Mesocœlia.—Williams, H. S., 2.
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Mesolite.—Smith, G. F. H., 1.
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——, Arizona.—Robinson, W. I., 1.
——, Australia.—Antevs, E., 1.
——, California.—Davis, E. F.,
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——, France.—Kilian, W., 13; Priem, F., 3 & 7.
——, Idaho.—Mansfield, G. R., 3.
——, Kent.—Kitchin, F. L.
——, London Basin.—Baker, H. A., 1.
——, Mexico & W. Indies.—Stanton, T. W., 2.
——, New Zealand.—Benson, W. N., 10.
——, Northern Africa.—Joleaud, L., 3.
——, Pacific Coast, U.S.A.—Packard, E. L., 1 & 2.
——, Patagonia & Tierra del Fuego.—Halle, T. G., 1.
——, Queensland.—Etheridge, R., *fil.*, 6; Tillyard, R. J., 1–7; Walkom, A. B., 1–6.
——, Rocky Mountains.—Lee, W. T., 5.
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Metabolism, igneous magmas & organic.—Washington, H. S., 6.
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—— ——, segregation of.—Miller, W. G., 4.
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—— ——, silver haloids in.—Knopf, A., 6.
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——, production of.—Dunlop, J. P., 2.
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——, Sweden.—Gavelin, A., 4 & 5.
——, classification of.—Miller, W. J., 4.
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——, of primitive & Alpine types.—Sederholm, J. J., 6.
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—— ——, Kodaikanal.—Meunier, S., 5.
—— ——, Oregon.—Foote, W. M.
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—— ——, preservation of.—Smith, G. F. H., 2.
—— ——, spectra of.—Lunt, J.
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——, salt deposits.—Zarate, J. C.
——, water-supply.—Galvez, V., 1–5; Paredes, T., 1–3.
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——, ——, radium in water of the.—Lloyd, S. J.
——, ——, Basins, water-supply.—Follansbee, R., 1; Follett, W. W.
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——, New Zealand.—Morgan, P. G., 10.
——, Queensland.—Dunstan, B., 1.
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Michigan (U.S.A.).—Allen, R. C.; Case, E. C., 7; Ehlers, G. M.; Leverett, F., 4; Nishio, K.; Savage, T. E., 9; Wright, G. F.
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Microbes, fossilisation &.—Meunier, S., 18.
Microcerion.—Dall, W. H., 2.
Microchœrus.—Depéret, C., 5; Stehlin, H. G., 2.
Microcline.—Ungemach, H., 1; Zenzén, N., 3.
Microcyclas.—Cossmann, M., 1.
Microderoceras.—Buckman, S. S., 3; Onetti, A.
Microdiorite, Belgium.—Ledoux, A., 1.
Microdiscus.—Illing, V. C., 1.
Microdon.—Branson, E. B., 5; Priem, F., 3 & 7; Woodward, A. S., 27.
Micrœcia.—Canu, F., 9.
Microgomphodon.—Watson, D. M. S., 3.
Microlite.—Zealley, A. E. V., 4.
Micrometer, recording.—Shand, S. J., 4.
Micromitra.—Cobbold, E. S., 2; Reed, F. R. C., 4; Walcott, C. D., 7 & 8.
Micromphalina.—Morgan, J. de, 1.
Microphyllopteris.—Walkom, A. B., 5 & 7.
Micropora.—Canu, F., 1; Faura, M.
Micropsis.—Clark, W. B., 3.
Microrhagus.—Wickham, H. F., 1.
Microsauria, Carboniferous.—Moodie, R. L., 4.
Microscope, metallographic, stage attachment for.—Brokaw, A. D., 1.
Microscope, petrological.—Loewinson-Lessing, F., 1; Orueta, D. de, 2; Smith, W. S. T.; Souza-Brandaõ, V., 1 & 8; Wright, F. E., 5, 10 & 13.
——, ——, in analysis.—Wright, F. E., 6.
Microsommite.—Doelter, C., 2.
Microspectroscope, in mineralogy.—Wherry, E. T., 4.
Microsus.—Sinclair, W. J., 1.
Microsyops.—Matthew, W. D., 14.
Microthyris.—Percival, F. G., 1.
Microtus.—Peach, B. N.
Middlesex dist. (Tasmania).—Hills, L., 6.
Midlands (England).—Anon., 112; Barnes, W.; Ferrar, H. T., 1; Gilbert, C. J., 1.
Mieg, M., *Obit.*—*See* Dollfus, G. F., 1.
Mier y Miura, E., *Obit.*—*See* Mourelo, J. R.
Migmatic rocks, S. Africa.—Wagner, P. A., 6.
Migration, of water-parting, Kentucky.—Jillson, W. R., 3.
Mikhaburra (Western Australia).—Clarke, E. de C., 1.
Milborne Port (Somerset).—Richardson, L., 6.
Milford (Pembroke).—Cantrill, T. C., 6.
Miliolina.—Chapman, F., 18.
Mill Close Mine (Derbyshire).—Stuckey, L. C.
Millardia.—Walcott, C. D., 3.
Miller, Hugh, *Biogr.*—*See* Geikie, Sir A., 1.
Miller's Law.—Cesàro, G., 8.
Milles Clay, S. France.—Repelin, J., 6.
Millet, F. W., *Obit.*—*See* Woodward, A. S., 8.
Millevaches, Plateau of (Cent. France).—Glangeaud, P., 15.
Millstone Grit, Carboniferous, Yorkshire.—Gilligan, A., 1 & 2.
—— ——, Lutetian, Yonne.—Hure, A.
Miltha.—Cossmann, M., 8; Dall, W. H., 5; Waring, C. A.
Mimetesite.—Doelter, C., 1.
Mimetite.—Amadori, M., 1.
——, artificial.—McDonnell, C. C.
Mimulus.—Reed, F. R. C., 4.
Mimusops.—Reid, C., 6.
Minas Geraes (Brazil).—Goodchild, J. H.; Harder, E. C., 2 & 4; Lee, T. H., 1 & 2; Singewald, J. T., *fil.*, 4; Williams, H. E.
Minasragrite.—Schaller, W. T., 2.
Minbu District (Burma).—Porro, C.
Mine model, Charters Towers.—Marks, E. O.
—— ——, coal seam, S. Staffordshire.—King, W. W.
—— models.—Stock, H. H.; Trickett, O.
—— sinking.—Sjœgren, A., 2.

Mine surveying.—González, P.; Priest, C. G.
Mineo (Sicily).—Gregorio, A. de, 7.
Mineragraphy, technique of.—Whitehead, W. L., 3.
Mineral, carbonaceous, in calcite.—Anderson, C., 2.
——, directions image of a.—Evans, J. W., 2–4.
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—— fragments, specific gravity of.—Graham, R. P. D., 2.
—— fuels, analysis of.—Campbell, M. R., 2.
—— ——, calorific value of.—Sollied, P. R.
—— industry, Canada.—Bell, J. M.
—— ——, China.—Collins, W. F.
—— ——, S. Africa.—Wagner, P. A., 7.
—— ——, United States.—Gilbert, C. G., 1–5.
—— production, Alabama.—Abele, C. A.; Smith, E. A., 1.
—— ——, British Columbia.—Robertson, W. F., 2 & 3.
—— ——, Canada.—McLeish, J., 1–5; *see also* CANADA, 10.
—— ——, Illinois.—Cady, G. H. 1.
—— production, India.—Hayden, Sir H. H., 3, 7, 9, 11 & 14; Holland, Sir T. H., 2.
—— ——, Iowa.—Kay, G. F., 3,6 & 8.
—— ——, Peru.—Jimenez, C. P., 1–5.
—— ——, the peace treaty &.—Louis, H., 2 & 3.
—— requirements, in iron & steel industries.—Fearnsides, W. G., 7.
—— resources, Alaska.—Brooks, A. H., 5 & 6; Martin, G. C., 2.
—— ——, Anatolia.—Penzer, N. M.
—— ——, British Columbia.—Emmens, N. W., 1–4; Unstead, J. F.
—— ——, British Empire.—Frechville, W.
—— ——, Canada.—Cadell, H. M., 2; Smith, W. H.
—— ——, Egypt.—*See* EGYPT.
—— ——, Illinois.—Savage, T. E., 1; Skewes, H. J., 1–3.
—— ——, India.—La Touche, T. H. D., 1.
—— ——, New Zealand.—Henderson, J., 1 & 2.
—— ——, Newfoundland.—*See* GREAT BRITAIN, 2.
—— —— Northern Territory, S. Australia.—*See* AUSTRALIA., 3.
—— ——, Norway.—Vogt, J. H. L., 1.
—— ——, Oklahoma.—Shannon, C. W.
—— ——, Papua.—*See* AUSTRALIA, 4–14.
Mineral resources, Philippine Is.—*See* PHILIPPINE ISLANDS, 1–4.
—— ——, Texas.—Phillips, W. B., 1–4.
—— ——, United States.—Smith, G. O., 1 & 2.
—— ——, Uruguay.—Marstrander, R.
—— ——, conservation of.—Gregory, J. W., 31.
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—— ——, Canada.—Elworthy, R. T., 2; Satterly, J., 1.
—— ——, Chigwell Row, Essex.—Trinder, W. M.
—— ——, Edinburgh.—Tait, D., 2.
—— ——, Portugal.—Choffat, P., 6.
—— ——, S. Africa.—Rindl, M. M., 1 & 2.
—— ——, Turin, Italy.—Malvano, G.
—— ——, Victoria.—Skeats, E. W., 1.
—— supplies, international readjustment of.—Bliss, E. F.
—— synthesis.—Niggli, P., 1.
—— waters, Argentina.—Bado, A. A., 1.
—— ——, Burton-on-Trent.—Brown, E.
—— ——, France.—Dollot, A., 3.
—— ——, Gloucester.—Embrey, G., 2.
—— ——, London.—Foord, A. S.
—— ——, Pyrenees.—Garrigou, F., 1.
—— ——, Roumania.—Giurgea, E., 1–8.
—— ——, analysis of.—Jensen, E. B.
—— ——, catalytic action of.—Giurgea, E., 2–4.
—— ——, in cyanide plants.—Stevens, T. B.
—— ——, electric conductivity of.—Damian, G. A.
—— ——, in Lower Greensand.—Fisher, W. W.
—— ——, manganese in.—Jadin, F., 1–3.
Mineralography, the term.—Whitehead, W. L., 2.
Mineralogy.—Ford, W. E., 2; Sjœgren, A., 1.
——, in Australia.—Anderson, C., 3.
——, in Paris.—Lacroix, A., 70.
——, history of.—Ford, W. E., 6.
——, microspectroscope in.—Wherry, E. T., 4.
——, numerical data in.—Spencer, L. J., 1.
——, old & new.—Miers, Sir H. A.
——, progress of, 1864–1918.—Prior, G. T., 5.
Minerals, Antrim.—Smith, G. F. H., 1.
——, Belgian Congo.—Buttgenbach, H.

Minerals, Boulonnais.—Sauvage, H. E., 1.
——, Brazil.—Farrington, O. C., 3.
——, British Columbia.—Brock, R. W., 1; Camsell, C., 1; 4 & 10–12; O'Neill, J. J., 3 & 4.
——, Butte, Montana.—Bard, D. C.
——, California.—Eakle, A. S., 1 & 2.
——, Canada.—Fabrega, P.; Graham, R. P. D., 1, 3 & 4; Johnston, R. A. A., 1; McLeish, J., 6; Merciai, G.
——, Ceylon.—*See* Great Britain, 4 *&* 9; *&* Imperial Institute, 13.
——, Chile.—Ossa, I. D., 1–3.
——, Colorado.—Larsen, E. S., 2 & 4.
——, Cornwall.—Collins, J. H., 1.
——, Cottian Alps.—Grill, E., 3.
——, Euganean Hills.—Billows, E.
——, France.—Lane, A. C., 7.
——, Glamorgan.—North, F. J., 4.
——, Holland.—Asselberghs, E., 4.
——, Italy.—Lincio, G., 1–4.
——, Japan.—Ichikawa, S., 1–4; *see also* Japan, 1.
——, Karakoram Range.—Roccati, A., 2.
——, Madagascar.—*See* Madagascar, Minerals.
——, Malay Peninsula.—Jones, W. R., 1.
——, Mexico.—Contreras, E.; Villafaña, A., 1; Wittich, E., 1; *see also* Mexico, 2.
——, Namaqualand.—Versfeld, W., 3.
——, Nevada.—Lindgren, W., 1.
——, New Brunswick.—Hayes, A. O., 3 & 5.
——, New Zealand.—Morgan, P. G., 1, 3, 4, 6, 7, 9 & 10.
——, Nigeria.—*See* Great Britain, 3, 8 & 10.
——, Nova Scotia.—Hayes, A. O., 3–5.
——, Nyassaland.—*See* Great Britain, 5 & 6.
——, Ontario.—Collins, W. H., 7; Knight, C. W., 1–3; Parsons, A. L., 1–5; *see also* Ontario, 1–5.
——, Peru.—Basadre, C.
——, Philippine Is.—Smith, W. D., 7.
——, Piedmont.—Delgrosso, M.
——, Quebec.—Ledoux, A., 5; Poitevin, E., 2; Wilson, M. E., 4, 5 & 10.
——, Queensland.—Ball, L. C., 2 & 3; Saint-Smith, E. C., 1–7.
——, Rhodesia.—Maufe, H. B., 8; Zealley, A. E. V., 1, 3, 4 & 6–8; *see also* Imperial Institute, 19; *&* Southern Rhodesia, 1 & 3.
——, S. Australia.—Mawson, Sir D., 1.
——, Spitsbergen.—Brown, R. N. R., 2.
——, Sudbury, Ontario.—Dresser, M. A.; Walker, T. L., 1.
Minerals, Sumatra.—Adam, J. W. H.
——, Sweden.—Flink, G., 1–7; Koechlin, R., 2.
——, Switzerland.—Grubenmann, U., 2.
——, ——, spectrum analysis of.—Brun, A., 6 & 7.
——, Sze-Chuan, China.—Way, H. W. L.
——, Tasmania.—Twelvetrees, W. H., 1, 2, 4, 6–9, 11 & 12.
——, Tunis, in sandstone.—Gaubert, P., 6.
——, United States, analyses.—Clarke, F. W., 3.
——, ——, Bibliography.—Evans, I. P.
——, Ural Mts.—Sabot, R. C., 1; Sigg, H., 1.
——, Utah.—Forsman, O.; Means, A. H., 2.
——, Vesuvius.—Cesàro, G., 1 & 10.
——, Washington.—Bastin, E. S., 4.
——, accessory, in Lake District granites.—Rastall, R. H., 9.
——, amorphous.—Rogers, A. F., 6.
——, asbestiform.—Taber, S., 2, 3 & 7.
——, chemistry of.—Pogue, J. E., 5.
——, classification of.—Navarro, L. F., 1; Wherry, E. T., 14.
——, coefficients of expansion of.—Schulz, K.
——, coloration of.—Newbery, E.
——, cone structure in.—Neviani, A., 3.
——, electrostatic separation of.—Riboni, P.
——, field determination of.—McGrigor, G. D.; Zealley, A. E. V., 5.
——, formation of, under pressure.—Johnston, J., 2.
——, hardness of.—Borgstrœm, L. H., 5; Holmquist, P. J., 3.
——, intergrowth of phosphate & silicate.—Wherry, E. T., 5.
——, lists of new.—Spencer, L. J., 3 & 6.
——, in Lower Greensand.—Rastall, R. H., 8.
——, non-metallic.—Merrill, G. P., 1.
——, ——, Canada.—Fréchette, H.
——, opaque.—Bruce, E. L., 1; Murdoch, J.
——, optical constants of.—Nikitin, W. W.
——, origin of.—Achiardi, G. d'; Barnes, W. H.; Beyschlag, F.
——, ——, in sedimentary rocks.—Samoilov, J. V.
——, paragenesis of.—Aminoff, G., 8.
——, prospecting for.—Cox, S. H.
——, radioactive, Canada.—Brunton, S.; Robinson, C. W.
——, ——, S. Africa.—Hahn, P. D.; Rogers, A. W., 1.
——, ——, density of lead from.—Richards, T. W., 2 & 3.

Minerals, rock-forming.—Johannsen, A., 6; Loewinson-Lessing, F., 1.
——, Sjœgren collection of.—Aminoff, G., 6.
——, in war.—Leith, C. K., 4; Spurr, J. E., 4.
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Minerva.—Shufeldt, R. W., 2.
Minervite.—Doelter, C., 1.
Mines & Mining, Alaska.—Capps, S. R., 7.
——, British Columbia.—Camsell, C., 1; Drysdale, C. W., 1–7; Galloway, J. D., 1–10; McConnell, R. G., 2–4; Robertson, W. F., 1; Schofield, S. J., 3; *see also* British Columbia, 1–5.
——, British Guiana.—*See* British Guiana, 1–6.
——, Burma.—Chater, C. W.
——, California.—Hill, J. M., 1.
——, Canada.—Watson, J. C.; *see also* Canada, 1–3, 5–10, 12, 13, 15 & 17.
—, Cornwall.—Angwin, B.; Broun, W. F. McB.
——, Devonshire.—Bawden, M.
——, Dutch East Indies.—Hogenraad, G. B.; *see also* Dutch East Indies, 1–4.
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——, Mexico.—Fernandez, R., 1–3; Flores, T., 5; Honigmann, E., 1 & 2; Ibarra, J., 1–12; Pena, M., 1–6; Reynoso, F., 1–3; Villafaña, A., 2 & 3; Zubiria y Campa, L.; *see also* Mexico, 5 & 7.
——, Montana.—Linforth, F. A.
——, Mysore.—*See* Mysore, 1–5.
——, Nevada.—Hill, J. M., 1; Schrader, F. C., 2.
——, New South Wales.—Horwood, E. J.; *see also* New South Wales, 1–4.
——, New York.—Newland, D. H., 1, 5 & 6.
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——, Queensland.—*See* Queensland, 1–3.
——, S. Africa.—*See* South Africa, 1–4.
——, S. Australia.—Ward, L. K.; *see also* South Australia, 4–13.
——, Tasmania.—Reid, A. M., 1 & 2; *see also* Tasmania, 1–6.
——, Transvaal.—Holford, W. G.
——, Turkey in Asia.—Edwards, G. M.
——, Utah.—Humes, J.
——, Victoria.—*See* Victoria.
Mines & Mining, W. Australia.—Maitland, A. G., 2; *see also* Western Australia, 1–5.
Mines, ancient, & distribution of megalithic monuments.—Perry, W. J.
——, deep, temperatures in.—Garforth, Sir W.; Walker, G. B., 2.
——, Roman, in Spain.—Gascue, F., 1 & 2.
——, Royal School of.—Watts, W. W., 1.
Mines Department, for the United Kingdom.—Anon., 115.
Minette, Jersey.—Mauger, —.
Mining, disturbance of underground water by.—Kegel, K.
——, geology &.—Hatch, F. H., 1.
——, on narrow lodes.—Warren, P. H.
——, statistics in relation to.—Aguilar, E. I.
——, subsidences due to.—Young, L. E., 1 & 2.
——, the war &, in Great Britain.—Redmayne, Sir R. A. S.
—— geology.—Park, J., 6.
—— industry, education in the.—Stewart, W.
—— regulations, Mysore.—Varadaiya, M.
Minneapolis (Minnesota).—Soper, E. K., 1.
Minnesota (U.S.A.).—Daly, R. A., 10; Grout, F. F., 2–4 & 8–10; Leverett, F., 1 & 2; Nebel, M. L., 2; Soper, E. K., 1 & 2; Wolff, J. F.
——, Bibliography.—Gregory, Winifred.
——, ore deposits.—Appleby, W. R.; Broderick, T. M., 2, 3 & 5; Harder, E. C., 3 & 5.
——, radioactivity of soils.—Sanderson, J. C.
Mino, Prov. (Japan).—Matsumoto, H., 7.
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——, Algeria.—Dalloni, M., 2 & 10; Gentil, L., 8.
——, Apennines.—Pelizzola, C., 1.
——, Australia.—Hawkins, H. L., 1.
——, Baluchistan.—Cooper, C. F.
——, British Columbia.—Hussakof, L., 2.
——, California.—Anderson, F. M.; Buwalda, J. P., 4; Clark, B. L., 1 & 5; Kew, W. S. W., 1; Merriam, J. C., 5; Nomland, J. O., 6.
——, Colorado.—*See* Florissant.
——, Denmark.—Nœrregaard, E. M., 1.
——, Egypt.—Fourtau, R., 5.
——, Florida.—Mansfield, W. C.; Sellards, E. H., 5.
——, France.—Chauvet, G.; Guébhard, A., 4; Kilian, W., 2.
——, French Alps.—Termier, P., 13.

Miocene, Germany (N.).—Koenen, A. von.
——, Hesse.—Stehlin, H. G., 5.
——, Italy.—Checchia-Rispoli, G., 2, 18 & 19; Principi, P., 2; Sacco, F., 3.
——, Japan.—Matsumoto, H., 5–7.
——, Macedonia.—Campana, D. del, 7 & 8; Nelli, B., 1; Niculescu, C., 3.
——, Majorca.—Llueca, F. G.
——, Massachusetts.—Allen, G. M., 1.
——, Morocco.—Depéret, C., 7; Gentil, L., 9, 15 & 25.
——, Nevada.—Buwalda, J. P., 1 & 4.
——, New Zealand.—Marshall, P., 8 & 9; Thomson, J. A., 15.
——, N. America.—Osborn, H. F., 10.
——, Papua.—Chapman, F., 1.
——, Philippine Is.—Yabe, H., 8.
——, Piedmont.—Parona, C. F., 6.
——, Punjab, India.—Pilgrim, G. E., 1–4.
——, Rhode Island.—Shimer, H. W., 2.
——, Sakhalin I.—Kryshtofovich, A. N., 1.
——, San Marino.—Nelli, B., 2.
——, Sardinia.—Lovisato, D., 1–4.
——, Sicily.—Checchia-Rispoli, G., 11 &16; Gregorio, A. de, 5.
——, S. Australia.—Howchin, W., 8.
——, S. Carolina.—Shufeldt, R. W., 3.
——, Spain.—Dupuy de Lome, E., 1.
——, Touraine.—Morgan, J. de, 1–3.
——, Virginia.—Berry, E. W., 11.
——, Western Australia.—Thomson, J. A., 12.
——, upper, land connections in.—Joleaud, L., 4.
Miogypsina.—Checchia-Rispoli, G., 14.
Miohippus.—Osborn, H. F., 10.
Miomaster.—Schuchert, C., 2.
Miopleiona.—Clark, B. L., 5.
Mioplosus.—Eastman, C. R., 2.
Miotoxaster.—Stefanini, G., 4.
Miramar (Argentina).—Ameghino, C., 1 & 2.
Misima (Papua).—Stanley, E. R., 2.
Mispickel, Queensland.—Dunstan, B., 3.
Mission Range (Montana).—Davis, W. M., 4.
Missisquoi Co. (Quebec).—Harvie, R., 2.
Mississippi (U.S.A.).—Berry, E. W., 2; Hopkins, O. B., 2.
—— Bluffs (Kentucky).—Berry, E. W., 5.
—— River.—Shaw, E. W., 1.
—— —— Basin, water-supply.—Follansbee, R., 2 & 3; Horton, A. H., 1; Hoyt, W. G., 4; Lamb, W. A., 3.
Mississippian, Illinois.—Davis, W. W.
——, Kentucky.—Butts, C., 2.
——, Mississippi Valley.—Weller, S., 1.
——, Missouri.—Bridge, J.
——, Ohio & Pennsylvania.—Verwiebe, W. A., 2.
Mississippian chert.—Barton, D. C., 4.
Missouri (U.S.A.).—Bridge, J.; Dean, R. S.; Greger, D. K.; Rowley, R. R.; Savage, T. E., 4; Shaw, E. W., 2.
——, coal resources.—Greene, F. C.
——, minerals & ore deposits.—Buchanan, G. H., 2; Buehler, H. A.; Cox, G. H., 2; Guess, H. A.; Ross, C. S.; Siebenthal, C. E., 2; Tarr, W. A., 3 & 7.
Missouri River.—Bauer, C. M., 2; Marshall, R. B., 7.
—— —— Basin, water-supply.—Lamb, W. A., 1 & 2.
Mitaki (Japan).—Kôzu, S., 2; Suginome, B.
Mitcham Common (Surrey).—Davies, G. M., 6.
Mitcheldeania.—Macnair, P., 8.
Mitchinson, Right Rev. Bishop J., *Obit.*—*See* Woodward, A. S., 25.
Mitra.—Cossmann, M., 1; Dall, W. H., 2; Dickerson, R. E., 5; Harmer, F. W., 2.
Mitramorpha.—Dickerson, R. E., 6.
Mitrella.—Marshall, P., 13.
Mitta Mitta mining field (Victoria).—Whitelaw, O. A. L., 3.
Mixite.—Doelter, C., 1.
Mixosaurus.—Huene, F. von, 2; Wiman, C., 6.
Mixteca Alta (Mexico).—Wieland, G. R., 1.
Miyakejima I. (Japan).—Kôzu, S. 2.
Miyako (Japan).—Yehara, S., 1.
Moa I. (E. Indies).—Brouwer, H. A., 6 & 7.
Moberg, J. C., *Obit.*—*See* Grœnwall, K. A., 7; & Ravn, J. P. J., 4.
Model, geological, of the Bernese Alps.—Girardin, P. ,8.
——, Kilauea volcano.—Sayles, R. W., 3.
——. *See also* Mine models.
Modiola.—Clark, B. L., 1 & 5; Cossmann, M., 7; Diener, C.; Fucini, A.; Girty, G. H., 1; Krenkel, E.; Luethy, J.; Mansuy, H., 1; Nœrregaard, E. M., 1; Ravn, J. P. J., 5; Stefani, C. de, 4.
Modiolaria.—Cossmann, M., 1 & 7; Ravn, J. P. J., 5.
Modiolocaris.—Jehu, T. J., 3.
Modiolopsis.—Mansuy, H., 1; Savage, T. E., 4; Williams, M. Y., 11.
Modiomorpha.—Fuchs, A.; Kegel, W.; Parks, W. A., 2; Spriestersbach, J.; Williams, H. S., 2.
Modulus.—Dall, W. H., 2.
Mœlonoceras.—Williams, M. Y., 11.

Moen (Norway).—Rekstad, J., 5.
Mogôk (Burma).—Woodward, A. S., 6.
Mohave Co. (Arizona).—Schrader, F. C., 5.
—— Desert (California).—Merriam, J. C., 15.
Moina mining-field (Tasmania).—Reid, A. M., 2.
Moine pebbles, in Torridonian conglomerates.—Gregory, J. W., 6.
Mokuaweoweo, volcano (Hawaii).—Wood, H. O., 2.
Molar patterns, of Primates.—Gregory, W. K., 5.
—— teeth.—*See* Teeth.
Molasse, Armagnac.—Dollfus, G. F., 5.
——, Switzerland.—Musy, M., 2; Stehlin, H. G., 1.
Mole R. (Surrey).—Young, G. W., 3 & 4.
Mölleaa R. Valley (Denmark).—Wesenberg-Lund, C.
Mollusca, Cretaceous.—Cossmann, M., 5 & 6; Fourtau, R., 4; Newton, R. B., 2, 9 & 11; Stanton, T. W., 1; Trechmann, C. T., 5.
——, Eocene.—Cossmann, M., 1; Dickerson, R. E., 1 & 3–6; Marshall, P., 10; Martin, K.
——, Jurassic.—Rollier, L., 2–5.
——, Liassic.—Onetti, A.
——, Miocene.—Koenen, A. von; Mansfield, W. C.; Marshall, P., 8 & 9; Morgan, J. de, 1–3; Nelli, B., 1.
——, Oligocene.—Dall, W. H., 2, 5 & 6; Pilsbry, H. A., 3 & 4.
——, Pleistocene.—Bell, A., 6, 8 & 9; Johansen, A. C.; Praeger, R. L., 2; Warren, S. H., 2; Woodward, B. B., 2.
——, Pliocene.—Cerulli-Irelli, S., 1 & 2; Harmer, F. W., 2.
——, post-Glacial.—Antevs, E., 9; Baker, F. C.
——, post-Pliocene.—Kennard, A. S., 2; Taylor, J. W.
——, Tertiary.—Cockerell, T. D. A., 1, 3, 5 & 6; Dickerson, R. E., 9 & 12–14; Marshall, P., 2, 4 & 6–11; Newton, R. B., 1; Nomland, J. O., 2–5; Roman, F., 2; Thomson, J. A., 18.
——, distribution of, on Pacific Coast, America.—Dall, W. H., 4.
——, Jan collection of.—Jan, G.
——, life of the.—Woodward, B. B. 1.
——, manganese in.—Boycott, A. E.
——, reef-dwelling.—Jourdy, E., 3.
——, shells of.—Winter, J. G.
Molluscan deposits, Wexford & Manxland.—Bell, A., 2.
Molong (N.S.W.).—Mingaye, J. C. H., 4.
Mölönjärvi Finland).—Wilkman, W. W., 2.
Molopophorus.—Anderson, F. M.; Clark, B. L., 5; Dickerson, R. E., 3, 5 & 9.
Molteno beds, S. Africa.—Schwarz, E. H. L., 5.
Moltkia.—Nielsen, K. B., 4 & 5.
Molybdenite, British Columbia.—Drysdale, C. W., 7.
——, California.—Calkins, F. C., 1.
——, Canada.—Mackenzie, G. C.
——, Chile.—Ossa, I. D., 3.
——, Gt. Britain.—Strahan, Sir A., 14.
——, Italy.—Billows, E.
——, Manitoba.—Bruce, E. L., 8.
——, Mexico.—Peña, M., 5.
——, Natal,—Du Toit, A. L., 3.
——, New South Wales.—Andrews, E. C., 11.
——, Northern Terr., S. Australia.—Gray, G. J., 3.
——, Norway.—Falck-Muus, R.,
——, Ontario.—Parsons, A. L., 3.
——, Quebec.—Camsell, C., 7.
——, Queensland.—Ball, L. C., 2 & 14; Dunstan, B., 2.
——, Spain.—Rubio, J. M., 3.
——, Switzerland.—Sigg, H., 5.
——, Tasmania.—Hills, L., 5 & 6; Waterhouse, L. L., 2.
——, Western Australia.—Robertson, A. J.
Molybdenum, separation of, from tungsten.—Marbaker, E. E.
—— ores, origin of.—Thomson, E., 3.
—— ——, production of.—Hess, F. L., 1.
Molybdophyllite.—Aminoff, G., 9; Flink, G., 4.
Monazite.—Doelter, C., 1; Kithil, K. L.
——, Burma.—Heron, A. M., 3.
——, Ceylon.—*See* Imperial Institute, 13.
——, Madagascar.—Lacroix, A., 12 & 65; Ungemach, H., 1.
——, Somaliland.—Artini, E., 3.
——, S. Australia.—Mawson, Sir D., 1.
——, Travancore.—Chacko, I. C., 2; Tipper, G. H.
——, Yorkshire.—Gilligan, A., 2.
Moncayo, Sierra del (Spain).—Palacios, P., 2.
Monchiquite, Libya.—Artini, E., 1.
Moncton dist. (New Brunswick).—Wright, W. J., 1.
Monegetta (Victoria).—Chapman, F., 10.
Monghyr District (India).—Schulten, C.
Mongoma.—Cockerell, T. D. A., 20.
Monkey, fossil.—Moir, J. R., 12.
Monilopora.—Etheridge, R., *fil.*, 1.
Monmouthshire.—Gardiner, C. I., 1 & 3.
Monocline, the term.—Daly, R. A., 7.

Monoclonius.—Brown, B., 2 & 7.
Monocrepidius.—Wickham, H. F., 1.
Monodonta.—Cerulli-Irelli, S., 2; Dickerson, R. E., 6.
Monograptus.—Dollé, L., 1; Hall, T. S., 1; Hede, J. E., 3; Tœrnquist, S. L., 1.
Monomorella.—Williams, M. Y., 4.
Monophyllus.—Anthony, H. E., 4.
Monopora.—Canu, F., 1; Faura, M.
Monotis.—Trechmann, C. T., 2.
Monotropa,—Reid, C., 6.
Mons (Belgium).—Racheneur, F.; Renier, A., 3.
Mont Blanc (Savoy).—Douvillé, H., 33; Sacco, F., 10; Siliprandi, T.
Mont d'Or (Fr. Jura).—Collot, L.; Fournier, E.; Kilian, W., 14; Schardt, M. H., 1 & 2; Zurcher, P., 7.
Mont St. Michel (France).—Galaine, C., 1.
Montagnola (Italy).—Cumin, G., 1.
Montagu dist. (S. Africa).—Perold, A. I.
Montana (U.S.A.).—Andrews, W. H.; Atwood, W. W., 2; Burling, L. D., 2; Campbell, M. R., 3; Davis, W. M., 4; Haynes, W. P.; Jennings, O. E.; Sternberg, C. H.; Walcott, C. D., 4 & 7.
——, coal-fields.—Bauer, C. M. 1; Bowen, C. F., 1–4; Rogers, G. S., 1; Stebinger, E., 1–4.
——, glacial erosion in.—Davis, W. M., 12.
——, minerals & ore deposits.—Adams, F. D., 6; Billingsley, P., 1–3; Goodale, C. W.; Linforth, F. A.; Sales, R. H.; Stone, R. W.; Thompson, A. P.
——, production of metals.—Heikes, V. C., 4.
——, refractory materials.—Gunniss, W. H.
——, water-supply.—Marshall, R. B., 1 & 7; Meinzer, O. E., 2.
——. *See also* SMITHSONIAN INSTITUTION, 1 & 2.
Montana Group, Montana.—Bowen, C. F., 4; Stebinger, E., 1.
Montauban Township (Quebec).—Bancroft, J. A., 1.
Montchalm (Auvergne).—Glangeaud, P., 3.
Monte Amiata (Tuscany).—Toso, P., 1.
Monte Argentario (Italy).—Caterini, F., 3.
Monte Calanna (Sicily).—Franco, S. di, 2.
Monte Colmine (Italy).—Lincio, G., 1.
Monte Cuccio (Sicily).—Gregorio, A. de, 7.
Monte Diablo (California).—Clark, B. L., 3.
Monte Ferru (Sardinia).—Washington, H. S., 2 & 12.
Monte Fumaiolo (Italy).—Lotti, B., 4.
Monte Gargano (Apulia).—Checchia-Rispoli, G., 2, 4, 5, 7 & 17–19; Crema, C., 1; Gignoux, M., 1; Parona, C. F., 4.
Monte Lodin (Venetia).—Vinassa de Regny, P., 1.
Monte Mario (Rome).—Cerulli-Irelli, S., 1 & 2.
Monte Martano (Umbria).—Lotti, B., 6.
Monte Pellegrino (Sicily).—Gregorio, A. de, 5.
Monte Pisano (Italy).—Campana, D. del, 1 & 3; Fucini, A.; Lotti, B., 5; Stefani, C. de, 8.
Monte Rosa (Italy).—Monterin, U., 1 & 4; Reina, V., 3.
Monte Scalino (Lombardy).—Sangiorgi, D., 3.
Monte Somma (Campania).—Cesàro, G., 1 & 9–12; Lacroix, A., 50 & 53; Zambonini, F., 10.
Monte Spoleto (Italy).—Martinotti, A.
Montecelio (Rome).—Crema, C., 2.
Montelifrè (Tuscany).—Ugolini, R.
Monterey Quadrangle (California).—Hawley, H. J.
Monterrey (Mexico).—Flores, T., 1; Ibarra, J., 1 & 2.
Monticellite, in meteorites.—Merrill, G. P., 2.
Monticulipora.—Cumings, E. R., 2; Mansuy, H., 4.
Monticuliporidæ, morphology of the.—Cumings, E. R., 2.
Montipora.—Gregory, J. W., 39.
Montjavoultia.—Cossmann, M., 1.
Montlivaltia.—Lang, W. D., 11.
Montmorillonite.—Doelter, C., 2.
Montpellier (France).—Braun-Blanquet, J.
Montreal (Quebec).—Ardley, E., 2; Cumming, C. L.; Gauthier, H., 2; Goldthwait, J. W., 1.
—— Island.—Stansfield, J., 1 & 2.
—— River dist. (Ontario).—Cooke, H. C., 5.
Montreux (Switzerland).—Henny, G., 2.
Monts-Dore (Auvergne).—Glangeaud, P., 2–9 & 11–14.
Monzonite, Bernina Mts.—Staub, R., 4.
Moon, internal structure of the.—Jeffreys, H., 1.
——, orography of the.—Lohest, M., 2.
——, surface of the.—Meunier, S., 6 & 14.
Moonta mining dist. (S. Australia).—Jack, R. Lockhart, 2.
Moorcroft oil-field (Wyoming).—Barnett, V. H., 2.
Moose Mt. (Alberta).—Cairnes, D. D., 1.

Moose River Sandstone, Maine.—Williams, H. S., 2.
Mopsea.—Chapman, F., 16.
Moraines, Chile.—Sundt, L., 1.
——, Lombardy.—Cacciamali, G. B., 1.
——, Miage Glacier.—Sacco, F., 6.
——, New England.—Katz, F. J., 4.
——, North Germany.—Tietze, O.
——, Northern Italy.—Preller, C. S. du R., 3.
——, Rhone & Aletsch Glaciers.—Swiderski, B.
——, Sweden.—Anrick, C. J., 1; Frœdin, G., 3; Geer, G. de, 5–7 & 10.
——, Switzerland.—Girardin, P., 10; Jenny, F., 2.
——, marine clay &.—Bjœrlykke, K. O.
Moravia (Austria).—Schirmeisen, K.
Morbihan (Brittany).—Pussenot, C., 1 & 2.
Moreni (Roumania).—Botez, G., 2 & 3.
Morinish (Queensland).—Ball, L. C., 15.
Morinite.—Slavik, F.
Mormolucoides.—Lull, R. S., 3.
Mornington (Victoria).—Keble, R. A., 1.
Morocco.—Dantín, J.; Gentil, L., 1 & 2; Marín, A., 1; Ungemach, H., 4.
—— (Central).—Brives, A., 4; Gentil, L., 3–5; Russo, P., 7.
—— (Northern).—Brives, A., 2; Gentil, L., 6, 9, 14, 15 & 22–25; Lecointre, G., 6; Poirée, E.
—— (Western).—Depéret, C., 7; Lecointre, G., 4, 5 & 7–9; Russo, P., 1–6.
Morosaurus.—Hooley, R. W.
Morrison Formation, U.S.A.—Berry, E. W., 3; Knowlton, F. H., 3; Lee, W. T., 1; Lull, R. S., 4; Mook, C. C., 3 & 4; Schuchert, C., 16; Stanton, T. W., 1.
Morro Hill (S. California).—Waring, G. A., 2.
Mortain (Normandy).—Anthoine, R., 1.
Mortonella.—Clark, W. B., 3.
Morum.—Dall, W. H., 2.
Morus.—Reid, C., 6.
Mosasauria, diseases of the.—Moodie, R. L., 12.
Moschognathus.—Broom, R., 3 & 5.
Moschops.—Broom, R., 3 & 4.
Moschosaurus.—Haughton, S. H., 1.
Moscoline (Lombardy).—Caldera, F., 2.
Mosquitoes, fossil.—Cockerell, T. D. A., 23.
Moss Mine (Quebec).—Camsell, C., 7.
Mosses, Pleistocene.—Camus, F.
Mossley Hill (Lancs.),—Harris, A. W.
Moughton Fell (Yorkshire).—Gilligan, A., 3.
Mound structures, in sedimentary rocks.—Kindle, E. M., 6.
Mount Albert (Quebec).—Mailhiot, A., 3.
Mount Albert Edward (British New Guinea).—*See* AUSTRALIA, 2.
Mount Apatite (Maine).—Ford, W. E., 4.
Mount Barker (Queensland).—Cameron, W. E., 1.
Mount Cannindah (Queensland).—Ball, L. C., 8 & 16.
Mount Carbine (Queensland).—Ball, L. C., 6.
Mount Claude dist. (Tasmania).—Hills, L., 6; Reid, A. M., 2.
Mount Coffin (S. Australia).—Connor, J. D.
Mount Desert I. (Maine).—Blaney, D.
Mount Edith (Western Australia).—Simpson, E. S., 6.
Mount Etna (Queensland).—Ball, L. C., 15.
Mount Gambier (S. Australia).—*See* SOUTH AUSTRALIA, 14.
Mount Keith dist. (Western Australia).—Talbot, H. W. B., 2.
Mount Lyell (N.S.W.).—Murray, R. M.
Mount Magnet dist. (Western Australia).—Jutson, J. T., 2.
Mount Marmian (Western Australia). Etheridge, R., *fil.*, 1.
Mount Miller (Queensland).—Ball, L. C., 15.
Mount Morgan (Queensland).—Gaby, W. E.; Hart, G. S.
Mount Mulligan (Queensland).—Ball, L. C., 10.
Mount Olive Quadrangle (Illinois).—Lee, W.
Mount Prospect (Queensland).—Cameron, W. E., 4.
Mount Read (Tasmania).—Hills, L., 2.
Mount Remarkable (S. Australia).—Howchin, W., 5; *see also* SOUTH AUSTRALIA, 17.
Mount Royal (Canada).—Buchan, J. S.
Mount St. Helens (Washington).—Jillson, W. R., 2.
Mount Sorrel (Leicestershire).—Watts, W. W., 2.
Mount Washington (New Hampshire).—Goldthwait, J. W., 7.
Mount Whyte Formation, Canada.—Walcott, C. D., 8.
Mountain building.—Belot, E., 9, 12 & 13; Chamberlin, R. T., 3; Deeley, R. M., 7; Jeffreys, H., 3.
—— ——, California.—Mathes, F. E.
—— ——, New York.—Clarke, J. M., 5.
Mountain Camp (Queensland).—Ball, L. C., 17.

Mountain chains, Eurasia.—Gregory, J. W., 2.
—— flexures, formation of.—Keyes, C. R., 13.
—— Province (Philippine Is.).—Smith, W. D., 1.
—— ranges, California.—Diller, J. S., 1.
—— ridges, Pennsylvania.—Eaton, H. N.
—— structure, Lappland.—Quensel, P., 2.
—— ——, New Zealand.—Cotton, C. A., 2, 3 & 8.
—— ——, Northern Colorado.—Ziegler, V., 1.
—— ——, Sweden.—Backlund, H., 6.
—— ——, Utah.—Thorpe, M. R.
—— system, Yünnan.—Legendre, A. F., 1 & 2; Ward, F. K., 2 & 4.
Mountains, Eastern Australia.—Cambage, R. H.
——, origin, growth & decay of.—Geikie, J., 2.
——, support of, Central Asia.—Oldham, R. D., 8.
——, weight of.—Heim, Alb., 8.
MOURLON, M., *Obit.*—*See* Leriche, M., 8; Rutot, A., 4; & Woodward, A. S., 8.
Mourlonia.—Chapman, F., 6; Dunlop, R., 2; Mansuy, H., 2.
Mourzinka (Russia).—Fersmann, A.
Mousterian, England.—Moir, J. R., 5, 13 & 16.
——, Oise Valley.—Commont, V., 2.
Mowbray (Tasmania).—Twelvetrees, W. H., 9.
MOYSEY, L., *Obit.*—*See* Arber, E. A. N., 6.
Mozambique (E. Africa).—Holmes, A., 5, 12 & 14; Wray, D. A., 1.
Mrhilaia.—Greco, B., 3; Newton, R. B., 9.
"Muck," frozen, Klondike.—Tyrrell, J. B., 10.
Mucronella.—Canu, F., 1 & 5; Faura, M.
Mud, marsh, composition of.—Hicks, W. B., 1.
——, saline, separation of salt from.—Kindle, E. M., 11.
—— -cracks, development of.—Kindle, E. M., 10.
—— deposits, of the Thames.—Leach, S. W.
—— lumps, Mississippi R., gas from.—Shaw, E. W., 1.
—— volcano, Crimea.—Lysakowski, C. de.
MUEHLBERG, F., *Obit.*—*See* Muehlberg, M.; Sarasin, C., 6; & Schmidt, C., 1.
MUELLER, H., *Obit.*—*See* Armstrong, H. E.
MUELLER, H. H. W., *Obit.*—*See* Anon., 65.
Mueller Glacier, N.Z.—Park, J., 4.
Muhlenbergia.—Knowlton, F. H., 4.
MUIR, J., *Obit.*—*See* Anon., 66; Badè, W. F.; & Van Hise, C. R.
Muldiva (Queensland).—Anderson, C., 1.
Mulinia.—Clark, B. L., 1; Packard, E. L., 2.
Mull, Isle of (Scotland).—Anderson, E. M., 2; M'Lintock, W. F. P.
Mullaghderg (Co. Donegal).—Cole, G. A. J., 7.
Mullanite.—Shannon, E. V., 3.
Müllerite.—Doelter, C., 2.
Mullerup (Denmark).—Koch, L., 1.
Mulline, N. Coolgardie, G. F. (W. Australia).—Feldtmann, F. R., 2.
Multituberculata, structure & affinities of the.—Broom, R., 2.
Munkforrsite & Munkrudite.—Doelter, C., 1.
Muno (Belgium).—Fourmarier, P., 3.
Murakami dist. (Japan).—*See* JAPAN, 2.
Murchison dist. (N.Z.).—Henderson, J., 4.
Murchison gold-field (Western Australia).—Clarke, E. de C., 2 & 3; Jutson, J. T., 2; Robertson, A. J.; Talbot, H. W. B., 2; Woodward, H. P., 1.
Murchisonia.—Dunlop, R., 2; Fuchs, A.; Hede, J. E., 3; Mansuy, H., 2; Spriestersbach, J.; Stefani, C. de, 4; Williams, M. Y., 11.
Murcia, Prov. (Spain).—Dupuy de Lome, E., 4.
Murex.—Bongo, F., 1; Clark, B. L., 1; Dall, W. H., 2 & 5; Dickerson, R. E., 5 & 9; Harmer, F. W., 2; Jourdy, E., 3; Martin, K.; Newton, R. B., 1; Nomland, J. O., 3 & 5.
Muricidea.—Dall, W. H., 2.
Muricopsis.—Cossmann, M., 1; Dainelli, G.
Murinopsia.—Lang, W. D., 9.
Muro (Majorca).—Llueca, F. G.
MURRAY, Sir J., *Obit.*—*See* Collet, L. W., 1; Kerr, J. G.; Shipley, Sir A. E.; & Woodward, A. S., 2.
Murray dist. (Idaho).—Goodrich, R. R.
—— Island (Torres Straits).—Mayor, A. G., 1.
—— Plains (S. Australia).—Howchin, W., 4; *see also* SOUTH AUSTRALIA, 19.
—— River Harbour (S. Australia).—Johnston, E. N.
Mursia & *Mursilia.*—Rathbun, M. J., 4.
Muschelkalk, Germany.—Huene, F. von, 2.
Muscovite.—Butler, B. S., 1; Doelter, C., 2.
Museums, Bergen.—Kolderup, C. F., 2; Melkild, O.

Museums, British (Natural History).—Woodward, A. S., 5.
——, Essex.—Warren, S. H., 4.
——, Geological Institute, Sweden.—Erdmann, E., 2.
——, Geological Survey of India, meteorite collection.—Brown, J. C., 5.
——, Illinois.—Crook, A. R., 1 & 2.
——, Lisbon.—Gomes, J. P.; Pacheco, E. H.
——, New York.—Clarke, J. M., 2 & 6.
——, Peter Redpath, McGill University.—Ardley, E., 1.
——, Practical Geology.—Allen, H. A., 1 & 2.
——, S. African.—*See* South Africa, 5–8.
——, United States National, meteorite collection.—Merrill, G. P., 5.
——, Wellington, N.Z.—*See* New Zealand, 1 & 2.
——, geological.—Andrée, K., 2 & 3.
Musgrave Ranges (S. Australia).—Jack, J. Lockhart, 1.
Musical Sands.—Carus-Wilson, C., 1 & 3.
—— ——, China.—Offord, J.
Musk Ox, in Switzerland.—Stingelin, T.
Musselshell (Montana).—Bowen, C. F., 1.
Mustela.—Merriam, J. C., 15; Pavlow, M., 2.
Mustelidæ, Pliocene.—Butterworth, E. M.
Muttensee (Switzerland).—Collet, L. W., 6.
Muzo (Colombia).—Pogue, J. E., 4.
Mya.—Clark, B. L., 1 & 5.
Myalina.—Branson, E. B., 5; Fuchs, A.; Girty, G. H., 2; Macnair, P., 4; Spriestersbach, J.; Stefani, C. de, 4; Williams, H. S., 2.
Mycterosaurus.—Williston, S. W., 3 & 7.
Myliobatis.—Chapman, F., 3, 7 & 16; Fourtau, R., 5; Llueca, F. G.; Priem, F., 1.
Mylodon.—Etheridge, R., *fil.*, 7; Hay, O. P., 1 & 8; Lull, R. S., 1; Stock, C., 1 & 3–5.
Mylohyus.—Hay, O. P., 1.
Mylonites, Asturias.—Termier, P., 7.
——, Dent du Midi.—Loys, F. de, 1 & 2.
——, France.—Kerforne, F., 3; Mouret, G., 1 & 2; Termier, P., 14.
——, Sweden.—Quensel, P., 3.
——, Switzerland.—Collet, L. W., 8.
Myoconcha.—Douvillé, H., 11; Girty, G. H., 2.
Myodites.—Cockerell, T. D. A., 8.
Myophoria.—Fuchs, A.; Kegel, W.; Mansuy, H., 1; Odhner, N. H., 2; Spriestersbach, J.; Trechmann C. T., 2.
Myophoriopsis.—Mansuy, H., 1; Odhner, N. H., 2.
Myoplusia.—Williams, H. S., 2.
Myosaurus.—Haughton, S. H., 3.
Myotragus.—Andrews, C. W., 2 & 5.
Myrcia.—Matson, G. C., 3.
Myrica.—Baumberger, E., 2; Knowlton, F. H., 4; Sangiorgi, D., 2.
Myriophyllum.—Reid, C., 6.
Myriopoda, Carboniferous.—Jackson, J. W., 8.
Myristica.—Berry, E. W., 7.
Myristicophyllum.—Berry, E. W., 18.
Myrmecobidæ, Paleocene.—Gidley, J. W., 1.
Myrmecoboides.—Gidley, J. W., 1.
Myrmekite, Piedmont.—Lincio, G., 1.
Myrtœa.—Dall, W. H., 2.
Mysidioptera.—Mansuy, H., 1.
Mysore District (Mysore).—Jayaram, B., 1.
—— State (India).—Smeeth, W. F., 4, 7 & 9.
—— ——, Geological Survey.—Jayaram, B., 5 & 6; Smeeth, W. F., 1, 3 & 5.
—— ——, mineral resources.—Smeeth, W. F., 8.
—— ——, mining regulations.—Varadaiya, M.
—— ——. *See also* Mysore, 1–5.
Mysticocrinus.—Springer, F., 1.
Mystriopora.—Lang, W. D., 1.
Mystriosuchus.—Mehl, M. G., 1.
Mytilarca.—Williams, M. Y., 11.
Mytilus.—Clark, B. L., 1 & 5; Cossmann, M., 5 & 7; Fucini, A.; Marshall, P., 13; Nomland, J. O., 3 & 6; Rollier, L., 2; Trechmann, C. T., 2.

Nadorite.—Doelter, C., 1.
Nagar Taluk (Mysore).—Jayaram, B., 7.
Nagasamudra (Mysore).—Balaji Rao, B., 1.
Nageiopsis.—Walkom, A. B., 5.
Naiadites.—Bolton, H., 1; Pruvost, P., 2.
—— beds, Belgium.—Cambier, R.
Nairne (S. Australia).—Connor, J. D.
Najas.—Reid, C., 6.
Namaqualand (S. Africa).—Jenkins, F. W.,; Rogers, A. W., 2, 6 & 8; Versfeld, W., 3.
Namyau beds, Burma.—Buckman, S. S., 1 & 4.
Nanaimo mining dist. (B.C.).—Astley, J. W.; Clapp, C. H., 2.
Nanggulan (Java).—Martin, K.
Nanggulania.—Martin, K.
Nanjangud Mine (Mysore).—Smith, P. B.
Nanna's Cave, Caldey I. (Pembroke).—Leach, A. L., 1 & 6.
Nannirhynchia.—Buckman, S. S., 4.
Nannopithex.—Stehlin, H. G., 2.
Nanograptus.—Hadding, A., 2.

Nanterre (France).—Dollfus, G. F., 13.

Naphtha, Mexico, analysis.—Ibarrola, A. M. de, 1.

Napier (N.Z.).—Holmes, R. W.

Naples, Institute of Vulcanology at.—Ròiti, A.

Nar-Budhan dome (Kashmir).—Middlemiss, C. S., 2.

Narbethong (Victoria).—Junner, N. R., 2.

Narbonne (France).—Carez, L.

Närke (Sweden).—Post, L. von, 1; Geer, S. de, 2.

Narni (Umbria) —Meli, R., 7.

Narra Tarra Mines (Western Australia).—Talbot, H. W. B., 4.

Narrows, The (Queensland).—Ball, L. C., 5.

Nasalis.—Gregory, W. K., 5.

Nasonite.—Aminoff, G., 3.

Nassa.—Anderson, F. M.; Bongo, F., 1; Chapman, F., 16; Clark, B. L., 1; Harmer, F. W., 2; Martin, K.; Noerregaard, E. M., 1.

Nassarawa (Nigeria).—Thomas, W. E.

Natal.—Du Toit, A. L., 2, 3 & 9; Schwarz, E. H. L., 6; Wybergh, W.

Nathorstia.—Halle, T. G., 1; Walkom, A. B., 5.

Natica.—Bell, A., 5; Cerulli-Irelli, S., 1; Chapman, F., 16; Clark, B. L., 1 & 5; Dall, W. H., 2; Dickerson, R. E., 3, 4 & 6; Douvillé, H., 22; Greco, B., 3; Marshall, P., 8; Martin, K.; Moody, C. L., 1; Nomland, J. O., 2 & 3; Ravn, J. P. J., 5.

Naticidæ, Pliocene.—Cerulli-Irelli, S., 1.

Naticina.—Dickerson, R. E., 5; Newton, R. B., 6.

Naticopsis.—Dunlop, R., 2; Mansuy, H., 2; Stefani, C. de, 4.

National mining dist. (Nevada).—Lindgren, W., 1.

Natrolite.—Ashcroft, F. N.; Doelter, C., 2; Phillips, A. H., 2; Popovici, O. R. S.; Smith, G. F. H., 1.

Natural History Society, Basel.—Stehlin, H. G., 4.

Nautanen dist. (Sweden).—Geijer, P., 6 & 9.

Nautilus.—Chapman, F., 4; Crick, G. C., 1, 3 & 7; Das-Gupta, H. C., 2; Douvillé, H., 22; Dunlop, R., 2; Greco, B., 2; Krenkel, E.; Loesch, K. C. von; Nœrregaard, E. M., 1; Onetti, A.; Schneid, T.; Stefani, C. de, 4; Waring, C. A.

Navajo Reservation (Arizona).—Gregory, H. E., 4 & 7.

Navanagar State (India).—Adye, E. H.

Navarre (Spain).—Palacios, P., 1; Stuart-Menteath, P. W., 7.

Navicula.—Lozano, E. D., 3.

Nazeing (Essex).—Evans, J. W., 11.

Neœra.—Nœrregaard, E. M., 1.

Neagh, Lough (Co. Antrim).—Stelfox, A. W.; Wright, W. B., 2.

Nebraska (U.S.A.).—Barbour, E. H., 3–5; Sinclair, W. J., 2; Troxell, E. L., 5 & 6.

Necks, volcanic, Auvergne.—Glangeaud, P., 8.

—— ——, Ayrshire.—Wilson, G. V.

Necrolemur.—Gregory, W. K., 5; Stehlin, H. G., 2.

Necropsylla.—Cockerell, T. D. A., 14.

Necrosorex.—Stehlin, H. G., 2.

Necymylacris.—Bolton, H., 3.

Need's Camp (Cape Prov., S. Africa). —Chapman, F., 13.

Negri Sembilan (Straits Settlements). —Willbourn, E. S., 1.

Neithea.—Newton, R. B., 9.

Nelson mining dist. (B.C.).—Galloway, J. D., 7.

—— Prov. (N.Z.).—Cotton, C. A., 2.

—— River (Canada).—McInnes, W.; Tyrrell, J. B., 6.

Nelumbium.—Reid, C., 6.

Nematophlebia.—Cockerell, T. D. A., 14.

Nematophyllum.—Garwood, E. J., 1.

Nematopora.—Bekker, H.; Savage, T. E., 4; Vinassa de Regny, P., 3.

Nemodon.—Waring, C. A.

Nemours (France).—Dollfus, G. F., 3.

Neobolites.—Greco, B., 2.

Neocalamites.—Berry, E. W., 15; Walkom, A. B., 1 & 5.

Neocene, California.—Anderson, F. M.

Neocomian, Argentina.—Windhausen, A., 2.

——, Norway.—Ravn, J. P. J., 6.

——, Paris Basin, Lambert, J., 4.

Neogene, Algeria.—Dalloni, M., 1 & 3.

——, Aquitaine.—Cossmann, M., 7 & 8.

——, Belgium.—Leriche, M., 2.

——, Sea of Marmora Basin.—Arabu, N., 3–6.

——, Spain (S.).—Gentil, L., 13.

——, Venetia.—Stefanini, G., 1.

—— land connections.—Joleaud, L., 5 & 6.

Neogyps.—Miller, L. H., 3.

Neohipparion.—Hay, O. P., 1; Merriam, J. C., 4, 6 & 9.

Neolenus.—Calman, W. T.; Walcott, C. D., 7, 9 & 11.

Neolithic civilisation.—Evans, Sir A.

—— flora, Calvados.—Gidon, F.

—— man.—*See* Homo.

—— mining, Belgium.—Rutot, A., 1.

—— settlement, Lincolnshire.—Dudley, H. E.

—— ——, Sardinia.—Bariola, R.

—— ——, Suffolk.—Clarke, W. G., 1; Mayfield, A.

—— ——, Thetford.—Hewitt, H. D., 1.

Neopalœaster.—Schuchert, C., 2.
Neophrontops.—Miller, L. H., 3.
Neopithecus.—Gregory, W. K., 5.
Neorhombolepis.—Woodward, A. S., 27.
Neoschwagerina.—Deprat, J., 2.
Neothyris.—Thomson, J. A., 4 & 5.
Neotragoceras.—Merriam, J. C., 14; Sinclair, W. J., 2.
Nepheline.—Doelter, C., 2; Flink, G., 4; Schaller, W. T., 3; Starabba, F. S.; Washington, H. S., 12.
—— -basalt, Idaho.—Mansfield, G. R., 6.
—— group, Bowen, N. L., 4.
—— -syenite, Kerguelen, I.—Lacroix, A., 27.
—— ——, Ontario.—Foye, W. G., 1.
Nephrite, Switzerland.—Musy, M., 3.
Nephrops.—Rathbun, M. J., 4.
Neptunea.—Harmer, F. W., 2.
Nerinea.—Cossmann, M., 5; Douvillé, H., 22; Greco, B., 3; Struebin, K., 2 & 3.
Nerinella.—Cossmann, M., 5; Greco, B., 3.
Nerita.—Cossmann, M., 1 & 5; Dall, W. H., 2; Dickerson, R. E., 5; Rollier, L., 5.
Neritina,—Cossmann, M., 1; Dickerson, R. E., 5.
Neritopsis.—Greco, B., 3; Rollier, L., 5; Trechmann, C. T., 5.
Nesophrontes.—Allen, G. M., 2; Anthony, H. E., 2.
Netherlands.—*See* Holland.
Netley Heath (Surrey).—Davies, G. M., 3; Young, G. W., 1.
Netscho Glacier.—Monterin, U., 2.
Nettlebed (Oxon).—Peake, A. E., 1.
Nettuno (Italy).—Samsonoff-Aruffo, C., 2.
Neuberg a D. (Germany).—Schneid, T.
Neuropsyche.—Tillyard, R. J., 6.
Neuropteridæ, Carboniferous.— Bertrand, P., 1.
Neuropteris.—Arber, E. A. N., 1; Bertrand, P., 1; Stopes, M. C., 1.
Neva Limestone, Oklahoma.—Beede, J. W., 1.
Nevada (U.S.A.).—Butterworth, E. M.; Buwalda, J. P., 1–4; Hicks, W. B., 1; Merriam, J. C., 1 & 7.
——, minerals & ore deposits.—Burgess, J. A.; Hale, F. A.; Hill, J. M., 1; Knopf, A., 1–4; Lindgren, W., 1; Schrader, F. C., 2; Shannon, E. V., 2; Spurr, J. E., 2; Whitman, A. R.; Young, J. W.
——, production of metals.—Heikes, V. C., 2.
——, water-supply.—Carpenter, E.; Meinzer, O. E., 3.
Nevadia.—Walcott, C. D., 11.
Nevado de Famatina (Argentina).—Bodenbender, G.
Neverita.—Dickerson, R. E., 5, 6 & 9.
New Brunswick (Canada).—Bailey, L. W.; Hayes, A. O., 1, 3 & 5; McLearn, F. H., 1; Wright, W. J., 1; Young, G. A., 2.
——, Carboniferous flora.—Stopes, M. C., 1; Wilson, W. J.
——, ore deposits.—Cairnes, D. D., 9; Camsell, C., 8.
——. peat deposits.—Anrep, A., 3.
New Caledonia.—Compton, R. H.; Davies, W. M., 20.
New England (N.S.W.).—Benson, W. N., 4.
—— ——, (U.S.A.).—Berry, E. W., 4; Katz, F. J., 4.
New Guinea.—Andrews, E. C., 9; Gregory, J. W., 29 & 39; Newton, R. B., 5, 8 & 10; *see also* Dutch New Guinea.
New Hampshire (U.S.A.).—Goldthwait, J. W., 5; Katz, F. J., 5; Lahee, F. H., 1; Sayles, R. W. 1.
New Hebrides (S. Pacific).—*See* Ambrym I.
New Jersey (U.S.A.).—Berry, E. W., 6; Fenner, C. N., 1; Harris, G. D.; Hawkins, A. C., 1; Salisbury, R. D., 1; Schuchert, C., 8.
——, minerals & ore deposits.—Cook, C. W.; Haight, C. M.; Mansfield, G. R., 5.
——. *See also* New Jersey, 1 & 2.
New London Mine (Maryland).—Butler, B. S., 8.
New Mexico (U.S.A.).—Case, E. C., 3; Cockerell, T. D. A., 1; Douthitt, H.; Granger, W., 1 & 2; Huene, F. von, 1; Kirk, C. T., 1 & 2; Lee, W. T., 2 & 3; Mehl, M. G., 3; Sinclair, W. J., 5; Williston, S. W., 5.
——, coalfields. Wegemann, C. H., 1.
——, minerals & ore deposits.—Richardson, G. B., 1; Somers, R. E.; Tovote, W.; Turner, H. W., 3.
——, production of metals.—Henderson, C. W., 1.
——, water-supply.—Darton, N. H., 1; Meinzer, O. E., 5.
New Russia.—Pavlow, M., 1 & 2.
New Siberian Is.—Kayser, E., 1.
New South Wales.—Andrews, E. C., 6; Etheridge, R., *fil.*, 3, 9 & 10; Suessmilch, C. A., 1–3; Tillyard, R. J., 1, 8, 10 & 11.
——, coastal elevation.—Harper, L. F., 6.
——, coalfields.—Atkinson, A. A.; Harper, L. F., 1–3; Robertson, J. R. M.
——, igneous rocks.—Aurousseau, M., 1; Benson, W. N., 1–7.
——, minerals.—Andrews, E. C., 11; Carne, J. E.; Harper, L. F., 4 & 5; Moore, E. S., 3; *see also* New South Wales, 1–4.

New Westminster mining dist. (B.C.).—Brewer, W. M., 11.

New York (U.S.A.).—Berry, E. W., 4; Chadwick, G. H., 1–4; Cogswell, J. A.; Fairchild, H. L., 2; Gormley, I.; Knight, N., 1 & 2; Martin, J. C.; Miller, W. J., 1–3 & 5–7; Schuchert, C., 8; Taber, S., 6.

——, glaciation.—Hausman, L. A.

——, minerals.—Newland, D. H., 1–6.

—— (Central).—Smith, Burnett, 2.

—— City, water-supply.—Walker, J. B.

New Zealand.—Andrews, E. C., 9; Bartrum, J. A., 2–4; Cotton, C. A., 1–10; Hutton, F. W.; Marshall, P., 1–13; Park, J., 2–5 & 7–9; Speight, R., 1–11.

——, earthquakes.—Hogben, G.; Skey, H. F.

——, islands.—Chilton, C., 2.

——, minerals.—Chambers, J. M.; Morgan, P. G., 1, 3, 4, 6, 7, 9 & 10; Rands, H.

——, soils, Wild, L. J., 1 & 4.

——, Trias.—Bather, F. A., 7; Trechmann, C. T., 2–5.

——, volcanoes.—Moore, E. S., 4.

——. *See also* NEW ZEALAND, 1–17.

Newbald (Yorks.).—Griffith, P.

Newcastle (N.S.W.).—Tillyard, R. J., 11.

Newcastle-upon-Tyne (England).—*See* BRITISH ASSOCIATION.

Newcastle Waters (N. Terr. S. Australia).—Winters, R. J.

Newfoundland.—Buddington, A. F., 1 & 2; Dale, N. C.; Hayes, A. O., 2.

——. *See also* GREAT BRITAIN, 2.

Newlandia.—Walcott, C. D., 2 & 11.

Newlands Corner (Surrey).—Davies, G. M., 3.

Newtoniella.—Cossmann, M., 1; Harmer, F. W., 2.

Newtonite.—Doelter, C., 2.

Ngahlaingdwin (Burma).—Porro, C.

Niagara dist. (Western Australia).—Jutson, J. T., 11.

—— escarpment, Ontario.—Williams, M. Y., 2 & 7.

—— Falls, recession of.—Spencer, J. W., 1.

—— Limestone, brecciated.—Giles, A. W.

Niagaran Formation, Michigan.—Ehlers, G. M.

—— ——, N. America.—Burling, L. D., 5.

—— ——, Ohio.—Prosser, C. S., 3.

—— ——, Ontario.—Williams, M. Y., 4.

NICCOLI, E., *Obit.*—*See* Dompè, L.

Nicholsonella.—Cumings, E. R., 2.

Nickel, California.—Calkins, F. C., 1.

——, Minas Geraes.—Williams, H. E.

Nickel, Ontario.—Baker, M. B., 2; Coleman, A. P., 3; Knight, C. W., 2; Roberts, H. M.

——, Queensland.—Dunstan, B., 4.

——, Sweden.—Igelstrœm, L. J.

——, Ural Mts.—Turner, H. W., 2.

——, World resources.—*See* ONTARIO, 5.

——, ores of.—*See* IMPERIAL INSTITUTE, 11.

——, production of.—Hess, F. L., 1.

—— ——, Canada.—*See* CANADA, 3 & 8.

Nickel-eruptive, Sudbury.—Dresser, M. A.

Nickeliferous iron, in meteorites.—Prior, G. T., 6.

—— pyrrhotite, Sudbury.—Walker, T. L., 1.

NICKLÈS, R., *Obit.*—*See* Floquet, G.

Nicola mining dist. (B.C.).—Brewer, W. M., 6.

Nictaux (Nova Scotia).—Hayes, A. O., 3.

NIEDZWIEDZKI, J., *Obit.*—*See* Anon., 67.

Niesen Flysch, Switzerland.—Buxtorf, A., 8.

—— zone, Swiss pre-Alps.—Lugeon, M., 2.

NIETHAMMER, G. A., *Obit.*—*See* Schmidt, C., 2.

NIEVO, I., *Obit.*—*See* Negri, G., 5.

Nigeria (W. Africa).—Andrews, C. W., 8; Newton, R. B., 12.

——, tin ores.—Canning, A. R.; Nicholls, H. E.; Rumbold, W. R.; Thomas, W. E.

——. *See also* GREAT BRITAIN, 3, 8 & 10; & IMPERIAL INSTITUTE, 14.

Niigata dist. (Japan).—*See* JAPAN, 4.

Nile, flood-records of the.—Keele, T. W.

——, former connection of, with Chad.—Heawood, E.; King, W. J. H., 2.

—— Delta.—Audebeau Bey, C.

—— River, irrigation projects.—Willcocks, Sir W.

—— Valley.—Fourtau, R., 1.

Niles Cone (California).—Clark, W. O.

Nileus.—Reed, F. R. C., 3; Slocom, A. W.

Nilssonia.—Knowlton, F. H., 5; Mœller, H.; Penhallow, D. P.; Walkom, A. B., 5.

Nimrud Crater (Armenia).—Oswald, F.

Niobe.—Sjœberg, S., 2.

Niobium minerals, Madagascar.—Waites, T. P.

—— -Titanium minerals, analysis of.—Moir, J., 1.

Niobrara Co. (Wyoming).—Lull, R. S., 2.

Nipigon-Longuelac dist. (Ontario).—Tanton, T. L., 4.

Niso.—Anderson, F. M.; Cerulli-Irelli, S., 1; Martin, K.
Nisusia.—Walcott, C. D., 7.
Nitraria.—Reid, C., 6.
Nitrate deposits, Chile.—Rogers, A. H.; Singewald, J. T., *fil.*, 2; Sundt, L., 2 & 3.
—— ——, Idaho & Oregon.—Mansfield, G. R., 1.
—— ——, S. Africa.—Frood, G. E. B.
—— shales, Egypt, Hume, W. F., 1.
Nitrates, in soils.—Burgess, P. S.
Nitre spots, in soils.—Sackett, W. G.; Stalder, W.; Stewart, R.
Nitrogen, in acid soils.—Lipman, C. B.
——, in coal.—Mahler, P.
——, rate of solution of, in water.—Adeney, W. E.
Nitzschia.—Lozano, E. D., 3.
Nivation, in Greenland.—Ekblaw, W. E.
——, in Norway.—Helland-Hansen, B.
No Man's Land Common (Herts).—Peake, A. E., 3.
Nobeoka dist. (Japan).—*See* Japan, 5.
Nocera (Campania).—Quercigh, E., 6.
Nodelea.—Canu, F., 9.
Nodosaria.—Chapman, F., 13 & 18; Cushman, J. A., 1; Smith, J., 1; Spitz, A., 1.
Nodules, pyritic.—Anon., 103.
Nœggerathiopsis.—Etheridge, R., *fil.*, 8; Wieland, G. R., 1.
Nogoya (Uruguay).—Ducloux, E. H., 1.
Noisy-les-Bains (Algeria).—Dalloni, M., 12.
Nomenclature, brachiopod.—Buckman, S. S., 2; Thomson, J. A., 16 & 17.
——, Cambrian, U.S.A.—Walcott, C. D., 6.
——, Cretaceous-Tertiary, N.Z.—Thomson, J. A., 10.
——, pre-Cambrian.—Lane, A. C., 2; Schuchert, C., 6; Wilson, M. E., 7.
——, in Palæozoology.—Féjérváry, Baron G. J. de.
——, of rock-fractures & dislocations.—Ahlmann, H. W., 1.
——, Tertiary, N.Z.—Thomson, J. A., 7.
——, Upper Palæozoic.—Watson, D. M. S., 9; Skeats, E. W., 7.
——, zoological.—Blanchard, —.
Nonesuch Formation, Michigan.—Nishio, K.
Nonionina.—Cushman, J. A., 1.
Nontronite.—Doelter, C., 2.
Norante (Basses-Alpes).—Guébhard, A., 18; Zurcher, P., 5 & 6.
Norberg, H. L., *Obit.*—*See* Holmboe, J., 2.
Norberg (Sweden).—Lindroth, G. T., 2.
Norbury (Surrey).—Davies, G. M., 6.
Nord, Dept. (France).—Mettrier, —.
Nordfjord (Norway).—Bjœrn, A.
Nordland (Norway).—Rekstad, J., 3.
Nordmarken (Sweden).—Flink, G., 5.
Norfolk.—Clarke, W. G., 2–4; Forbes-Leslie, W., 1; Hill, E.; Kendall, H. G. O., 1.
Norite, Sierra Leone.—Shand, S. J., 8.
——, S. Rhodesia.—Zealley, A. E. V., 2.
——, nickeliferous, Sudbury.—Walker, T. L., 1.
Normandy.—Anthoine, R., 1; Bigot, A., 1, & 3–5; Hopkinson, J., 2.
Normannites.—Swinnerton, H. H., 4.
Normanskill Fauna, Virginia.—Powell, S. L.
Norrbotten dist. (Sweden).—Svenonius, F., 4.
Nörre Lyngby (Denmark).—Jessen, A., 4.
Norrland (Sweden).—Hœgbom, A. G., 1; Tamm, O., 1 & 3.
Norseman Limestone, Western Australia.—Gregory, J. W., 23.
North Burgess (Ontario).—Graham, R. P. D., 3.
North Downs (Kent).—Chandler, R. H., 2.
—— —— (Surrey).—Fagg, C. C., 2; Whitaker, W., 1.
North Dundas tin-field (Tasmania).—Conder, H., 2.
North Mimms (Herts.).—Whitaker, W., 2.
North Park (Colorado).—Beekly, A. L.
North Pieman mining-field (Tasmania).—Reid, A. M., 1.
North Pine R. (Queensland).—Jensen, H. I., 7.
North Plainfield (New Jersey).—Hawkins, A. C., 1.
North Sea.—Cole, G. A. J., 15.
——, chalk fragments from the.—Hill, W., 1.
——, limestone from the.—Newton, R. B., 6.
—— Drift.—Boswell, P. G. H., 11.
North West Territories (Canada).—Cameron, A. E., 1 & 2; Camsell, C., 2 & 3.
Northampton (Western Australia).—Harris, C. M.
Northamptonshire.—Cox, A. H., 7; Thompson, B., 1–3.
Northern Territory (S. Australia).—Basedow, H., 3; Dunn, E. J., 1; Jensen, H. I., 1–3 & 8; *see also* Australia, 3.
Northfieldite, Massachusetts.—Emerson, B. K., 1.
Norway.—Goldschmidt, V. M., 1 & 2; Kolderup, C. F., 1–8; Œyen, P. A., 1–8 & 10–13; Rekstad, J., 1–11; Reusch, H., 1–14; Wråk, W.

Norway, building stones.—Oxaal, J., 1–3, 5 & 6.

——, Devonian flora.—Halle, T. G., 5; Nathorst, A. G., 2.

——, gravel deposits.—Vogt, J. H. L., 2.

——, minerals.—Ries, H., 8; Vogt, J. H. L., 1.

—— (Southern).—Holtedahl., O, 6; Schetelig, J.; Werenskiold, W., 2.

Norwegian boulder, in Millstone Grit.—Gilligan, A., 1.

Norwoodia.—Walcott, C. D., 3.

Nosean.—Doelter, C., 2.

Nossi bé (Madagascar).—Lacroix, A., 39.

Notagogus.—Eastman, C. R., 2; Erasmo, G. d', 1.

Notasaphus.—Chapman, F., 23.

Note-book form, for petroleum geologists.—Woodruff, E. G., 3.

Notharctus.—Granger, W., 4; Gregory, W. K., 2 & 5; Matthew, W. D., 14.

Nothodectes.—Matthew, W. D., 8 & 14.

Nothosaurus.—Schroeder, H.

Nothrotherium.—Hay, O. P., 5; Stock, C., 2 & 5.

Notidanus.—Priem, F., 1, 3 & 4.

Notoblattites.—Tillyard, R. J., 1 & 8.

Notocene, N. Z.—Cotton, C.A., 10.

—— & Notopleistocene, the terms.—Thomson, J. A., 10.

Notogoneus.—Eastman, C. R., 2.

Notosepia.—Chapman, F., 4.

Notothyris.—Mansuy, H., 2; Molengraaff, G. A., F. 4.

Notre Dame des Anges (Quebec).—Bancroft, J. A., 1.

Nottaway R. (Quebec).—Cooke, H. C., 2–4.

Nottinghamshire.—Burton, T. H.; Swinnerton, H. H., 2; Trueman, A. E., 1.

——, coalfield.—Fearnsides, W. G., 3 & 4; Longden, G. A.; Mitton, E.

Nova Scotia.—Faribault, E. R., 1–7; Goldthwait, J. W., 2; Hyde, J. E., 1 & 3; Kindle, E. M., 4 & 7; McIntosh, D. S., 1–3; McLearn, F. H., 6; Powers, S., 1 & 3; Williams, M. Y., 1; Woodward, H., 6; Wright, W. J., 2.

——, coast survey.—Bigelow, H. B., 2 & 3.

——, ore deposits.—Cairnes, D. D., 9; Camsell, C., 8; Hayes, A. O., 3–5; Spencer, L. J., 5.

——, soils.—Harlow, L. C.

Noza (Lombardy).—Bonomini, C., 2.

Nucleata.—Buckman, S. S., 4.

Nucleopsis.—Marshall, P., 8.

Nucleospira.—Stauffer, C. R., 5; Weller, S., 1; Williams, H. S., 2.

Nucula.—Bell, A., 5; Branson, E. B., 3; Clark, B. L., 5; Dall, W. H., 2; Dunlop, R., 2; Fuchs, A.; Girty, G. H., 1 & 2; Greco, B., 4; Hede, J. E., 3; Kegel, W.; Krenkel, E., Mansuy, H., 1; Newton, R. B., 6; Ravn, J. P. J., 5; Spriestersbach, J.

Nuculana.—Dunlop, R., 2; Fuchs, A.; Spriestersbach, J.

Nuculoidea.—Williams, H. S., 2.

Nuculopsis.—Girty, G. H., 1.

Nudivagus.—Wade, B., 3.

Nuevo Leon, State (Mexico).—Ibarra, J., 3 & 6.

Nugget Sandstone, Idaho.—Mansfield, G. R., 3.

Nuleri (Western Australia).—Brezina, A.

Nullipora, Tertiary.—Newton, R. B., 10.

Nullum Mt. (N.S.W.).—Benson, W. N., 1.

Numidia (N. Africa).—Joleaud, L., 3.

Nummocalcar.—Cossmann, M., 5.

Nummulites, evolution & classification.—Douvillé, H., 31.

Nummulites.—Checchia-Rispoli, G., 14; Cushman, J. A., 2; Douvillé, H., 26; Prever, P. L.; Rutten, L., 2; Yabe, H., 6 & 7.

Nummulitic Limestone (Alps).—Rollier, L., 10.

Nummulosphere, The.—Kirkpatrick, R., 1 & 2.

Nundle dist. (N.S.W.).—Benson, W. N., 2.

Nuoro (Sardinia).—Blengino, A., 1 & 2.

Nuphar.—Fritel, P. H., 2; Reid, C., 6.

Nurra di Sassari (Sardinia).—Termier, P., 1.

Nutfield (Surrey).—Cox, A. H., 3 & 6.

Nutmeg, fossil.—Berry, E. W., 7.

Nyassa.—Spriestersbach, J.

Nyassaland.—*See* GREAT BRITAIN, 5 & 6.

Nybränna (Sweden).—Westergård, A. H., 1.

Nyctilochus.—Dickerson, R. E., 5, 6 & 9.

Nygård (Sweden).—Svenonius, F., 2.

Nysocken, Lake (Sweden).—Teiling, E., 2.

Nyssa.—Reid, C., 6.

Nystia.—Cossmann, M., 1.

Oahu (Sandwich Is.).—Hitchcock, C. H.

Oamaru dist. (N.Z.).—Marshall, P., 2 & 9; Park, J., 5 & 8; Uttley, G. H., 2 & 3.

Oamaruian, N. Z., Thomson, J. A., 18.

Obidos, Lake (Portugal).—Girard, A. A.

Obliquaria.—Odhner, N. H., 2.

Obolus.—Reed, F. R. C., 4; Walcott, C. D., 4, 7 & 8.
—— conglomerate, E. Gotland.—Rosén, S.
Obourg (Belgium).—Rutot, A., 1.
Observatory, Vesuvius.—Viola, C., 2.
—— Inlet (B.C.).—McConnell, R. G., 3.
Obsidian, California.—Wright, F. E., 9.
——, Iceland.—Wright, F. E., 2.
——, Victoria.—Skeats, E. W., 2.
Obsidianites, New South Wales.—Mingaye, J. C. H., 6.
——, Singapore.—Scrivenor, J. B., 2.
——, Victoria.—Walcott, R. H.
Ocala Limestone, Florida.—Cooke, C. W.
Ocean Basins, geological meaning of.—Horn, E.
—— ——, origin of.—Belot, E., 1 & 3; Schuchert, C., 5.
—— ——, permanency of.—Schuchert, C., 11.
—— currents, dispersion of fruits & seeds by.—Morris, Sir D., 1.
Oceanica, diastrophism in.—Schuchert, C., 5.
Oceanography, Pacific.—Littlehales, G. W.
——, modern science of.—Murray, Sir J.
——, recent researches in.—Gravier, C.
Ochetosella.—Canu, F., 11.
Ochil Hills (Scotland).—Davison, C., 6.
Ochre, Tasmania.—Twelvetrees, W. H., 5.
Ochrolite.—Doelter, C., 1.
Ocinebra.—Dickerson, R. E., 6; Harmer, F. W., 2; Martin, K.
Octahedrite.—Mawson, Sir D., 1.
Octocorallia, Cretaceous.—Nielsen, K. B., 4 & 5.
Octodontia, sub-Recent.—Allen, J. A.
Octotremacis.—Gregory, J. W., 29.
Oculina.—Park, J., 5.
Ödegaarden (Norway).—Werenskiold, W., 3.
Odensala (Sweden).—Anrick, C. J., 1.
Odonata, Eocene.—Campion, H.
——, Triassic.—Tillyard, R. J., 4.
Odontaspis.—Chapman, F., 7; Hussakof, L., 6; Llueca, F. G.; Pieragnoli, L.; Priem, F., 1 & 4; Stefano, G. de, 4.
Odontionella.—Faura, M.
Odontostomia.—Cerulli-Irelli, S., 1; Cossmann, M., 1; Morgan, J. de, 1.
Odostomia.—Noerregaard, E. M., 1; Dickerson, R. E., 5 & 6.
Oecophylla.—Cockerell, T. D. A., 14.
Oedemia.—Munthe, H., 5.
Oeonoscopus.—Erasmo, G. d', 1; Woodward, A. S., 27.
Offerdalen (Sweden).—Aminoff, G., 1.
Ogahulla-Collins Region (Ontario).—Hopkins, P. E., 4.
Ogiva.—Lecointre, G., 1.
Ogivalina.—Canu, F., 11 & 13.
Oglio Basin (Italy).—Patrini, P., 1.
Ogmodirus.—Williston, S. W., 9.
Ogygites.—Reed, F. R. C., 3.
Ogygopsis.—Walcott, C. D., 5.
Ohio (U.S.A.).—Bonine, C. A.; Cushing, H. P., 2; Foerste, A. F., 2; Grabau, A. W., 7; Hyde, J. E., 2; Prosser, C. S., 2–4; Stauffer, C. R., 3 & 4; Tucker, W. M.; Verwiebe, W. A., 1–3.
——, Carboniferous.—Case, E. C., 4; Hussakof, L., 3; Lamb, G. F.; Moodie, R. L., 4.
——, oil & gas.—Bownocker, J. A.; Condit, D. D., 1–3; Panyity, L. S.; Van Horn, F. R., 2.
—— River Basin.—Gardner, J. H., 1; Horton, A. H., 2 & 3.
—— Shales, Ontario.—Williams, M. Y., 10.
Ohmgebirge (Germany).—Walter, E.
Oiasso (Spain).—Gascue, F., 2.
Öieren (Norway).—Holtedahl, O., 4.
Oil.—*See* Petroleum.
Oil-bearing formations, Palæozoic, N. America.—Grabau, A. W., 8.
Oilfields, Alaska.—Brooks, A. H., 3.
——, Alberta.—Dowling, D. B., 3, 10, 13, 16 & 17.
——, Appalachian.—Fuller, M. L., 1; Richardson, G. B., 3.
——, British Somaliland.—Thompson, A. B., 3.
——, California.—Pack, R. W., 2 & 4.
——, Eastern Canada.—Malcolm, W., 1.
——, Egypt.—Hume, W. F., 2 & 3.
——, Illinois.—Blatchley, R. S., 1 & 2; Shaw, E. W., 3; Wheeler, H. A.
——, Louisiana & Texas.—Matson, G. C., 2.
——, Mexico.—Garfias, V. R., 1 & 2; Golyer, E. de, 1–3; Huntley, L. G., 2; Iglesias, C. A.; Ordoñez, E., 1, 3 & 5.
——, New Zealand.—*See* NEW ZEALAND, 3 & 4.
——, Oklahoma.—Powers, S., 9, 11 & 13; Wegemann, C. H., 9 & 10.
——, Ontario.—Williams, M. Y., 9 & 12.
——, Papua.—Langford, W. G., 2; *see also* AUSTRALIA, 1; & IMPERIAL INSTITUTE, 6.
——, Roumania.—Botez, G., 1; Schmidt, G.
——, Russia.—Adiassevich, A.; Calder, W.; Holiday, F. A.; Huntley, L. G., 1; Thompson, A. B., 1.
——, Texas.—Matteson, W. G., 2.
——, United States.—Gardner, J. H., 2 & 3; Hager, D., 3.

Oilfields, Wyoming.—Barnett, V. H., 1 & 2.
——, classification of.—Clapp, F. G., 1.
——, water surfaces in.—Daly, M. R., 3.
—— lands, valuation of.—Requa, M. L.
—— sands, California.—Gester, G. C.
—— ——, crevices & cavities in.—Shaw, E. W., 13.
—— ——, porosity of.—Washburne, C. W., 3.
—— ——, unconsolidated, recovery of petroleum from.—Kobbé, W. H.
—— ——, water in.—Johnson, R. H., 3.
—— -shales, Gt. Britain.—Berry, A. G. V.; Craig, E. H. C., 3; Illing, V. C., 3; Perkin, F. M., 1.
—— ——, Kimmeridge.—Anon., 108; Manfield, W. H.; Strahan, Sir A., 16.
—— ——, Natal.—Du Toit, A. L., 2.
—— ——, New Zealand.—Morgan, P. G., 6.
—— ——, Norfolk.—Forbes-Leslie, W., 1.
—— ——, Queensland.—Ball, L. C., 4.
—— ——, Scotland.—Carruthers, R. G., 1.
—— ——, United States.—Winchester, D. E., 1.
—— ——, alteration of.—White, D., 1.
—— ——, effect of movement in, on production.—Conkling, R. A.
—— ——, origin of.—Conacher, H. R. J.; Craig, E. H. C., 2.
—— -wells, production of.—Lewis, J. O., 2.
—— ——, through coal seams.—Rice, G. S., 3.
Oise R. Valley (France).—Commont V., 2 & 5.
Oistoceras.—Trueman, A. E., 5.
Okechobee, Lake (Florida).—Merrill, G. P., 11.
Oklahoma (U.S.A.).—Beede, J. W., 1; Berger, W. K., 1; Fath, A. E., 1 & 2; Girty, G. H., 1; Jillson, W. R., 1; Mather, K. F., 1; Twenhofel, W. H., 6.
——, minerals.—Shannon, C. W.; Siebenthal, C. E., 2.
——, oil & gas.—Beal, C. H.; Buttram, F., 1 & 2; Gardner, J. H., 2 & 3; Hager, D., 2; Heald, K. C.; Powers, S., 9, 11 & 13; Smith, C. D., 1 & 2; Wegemann, C. H., 3–5 & 8–10.
Olary (S. Australia).—Radcliff, S.
Old age, in fossils.—Lang, W. D., 11.
Old Red Sandstone, Aberdeenshire.—Horne, J., 7 & 10; Kidston, R., 6; Newlands, G., 1.
——, Fifeshire.—Jehu, T. J., 2; Woodward, A. S., 7.
Old Red Sandstone, Herefordshire.—Sorby, H. C.
——, New York.—Clark, J. M., 5.
——, fluviatile origin of the.—Barrell, J., 6.
Old Radnor dist. (Wales).—Garwood, E. J., 3.
Oldengranite, Sweden.—Frœdin, G., 5.
Oldhamite, in meteorites.—Merrill, G. P., 2.
Olenellus.—Walcott, C. D., 11.
Olenopsis.—Walcott, C. D., 7 & 8.
Olentangy Shales, Ohio.—Grabau, A. W. 7; Stauffer, C. R., 4.
Oliena (Sardinia).—Blengino, A., 2.
Olifantsfontein (Transvaal)—Wagner, P. A., 2.
Oligocarpia.—Stopes, M. C., 1.
Oligocene, Algeria.—Dalloni, M., 4, 7 & 8.
——, Auvergne.—Glangeaud, P., 10.
——, California.—Clark, B. L., 2, 3 & 6.
——, Colombia.—Pilsbry, H. A., 3.
——, Florida.—Dall, W. H., 2 & 6.
——, France.—Glangeaud, P., 4; Helbing, H.
——, Georgia.—Dall, W. H., 5.
——, Germany.—Roman, F., 1.
——, Haiti.—Pilsbry, H. A., 3.
——, Italy.—Franchi, S., 5.
——, Mexico.—Dumble, E. T., 5.
——, Montana.—Jennings, O. E.
——, Nebraska.—Troxell, E. L., 5 & 6.
——, New Zealand.—Park, J., 5.
——, N. America.—Osborn, H. F., 10.
——, Provence.—Meunier, F.; Repelin, J., 6, 8 & 12; Vasseur, G.
——, Santo Domingo.—Pilsbry, H. A., 4.
——, S. Dakota.—Mehl, M. G., 4.
——, Sumatra.—Douvillé, H., 10.
——, Switzerland.—Gutzwiller, A., 2.
——, United States, Coastal Plain.—Matson, G. C., 3.
——, ——, Pacific Coast.—Dickerson, R. E., 9.
——, Washington.—Weaver, C. E., 3 & 5.
Oligoclase, Norway.—Carstens, C. W., 3.
Oligopygus.—Clark, W. B., 3.
Oliva.—Dall, W. H., 2; Pilsbry, H. A., 3.
Oliveiraite.—Lee, T. H., 1.
Olivella.—Clark, B. L., 1& 5; Cossmann, M., 1; Dall, W. H., 2; Waring, C. A.
Olivenite.—Doelter, C., 1.
Olivine.—Flink, G., 4.
—— -gabbro, Society Is.—Lacroix, A., 43.
—— group, Magnusson, N. H.
Olivola (Liguria).—Campana, D. del, 2.

OLRY, A., *Obit.*—*See* Gosselet, J., 2; & Zeiller, C. R., 1.
Olten (Switzerland).—Stingelin, T.
Oltenia (Roumania).—Ionescu-Argetoaia, I. P.
Oltinotherium.—Repelin, J., 10.
Omalaxis.—Marshall, P., 8 .
Omeo (Victoria).—Dunn, E. J., 14.
Omineca mining dist. (B.C.).—Galloway, J. D., 2.
Omomys.—Gregory, W. K., 5; Matthew, W. D., 14.
Omphalocyclus.—Douvillé, H., 22.
Omphalotrochus.—Chapman, F., 6.
Onaping dist. (Ontario).—Collins, W. H., 6.
Oncograptus.—Hall, T. S., 1; Harris, W. J.
Oncomelania.—Annandale, N., 1.
Oncousœcia.—Canu, F., 9.
Onega, Lake (Russia).—Eskola, P., 3.
Onekakara (N.Z.).—Marshall, P., 10.
Onet (Sweden).—Frœdin, G., 7.
Oniscia.—Martin, K.
Ontario, Prov. (Canada).—Coleman, A. P., 1 & 8; Collins, W. H., 1–7; Cooke, H. C., 5 & 6; Foerste, A. F., 1; Foye, W. G., 1–3; Hume, G. S.; Johnston, W. A., 1–4 & 6–8; Kindle, E. M., 7 & 15; Miller, W. G., 3–6; Quirke, T. T., 1; Stansfield, J., 1–3; Stauffer, C. R., 1 & 2; Tanton, T. L., 3, 4 & 6; Uglow, W. L., 2; Williams, M. Y., 2–12; Wilson, M. E., 8 & 9.
——, clays.—Keele, J., 4 & 5.
——, minerals & ore deposits.—Bateman, A. M., 1; Burrows, A. G., 1–5; Goodchild, W. H., 6; Graham, R. P. D., 3; Hopkins, P. E., 1–6; Johnson, H. H.; Knight, C. W., 1–3; MacDonald, J. A.; Newnam, W. E.; Parsons, A. L., 1–5; Reid, J. A.; Tyrrell, J. B., 2; *see also* ONTARIO, 1–5.
——, oil & gas fields.—Malcolm, W., 1; Mickle, G. R.
——, radioactive minerals.—Brunton, S.
——, road materials.—Clark, K. A.; Reinecke, L., 3, 4 & 6–8.
——, sand & gravel deposits.—Ledoux, A., 9.
——, Lake.—Kindle, E. M., 1 & 2; Mather, K. F., 2; Spencer, J. W., 2 & 3.
Onychocella.—Faura, M.
Onychocrinus.—Wright, J., *fil.*, 2.
Ooceras.—Parks, W. A., 2.
Oolite, Belgium.—Dorlodot, L. de.
——, Gotland.—Munthe, H., 3.
——, Normandy.—Nicolesco, C., 1 & 2.
——, Oxfordshire.—Walford, E. A., 4.
——, Spain.—Sampelayo, H.
—— grains, in upper Lias, Lincolnshire.—Preston, H.
Oolite, peculiar form of, Pennylvania.—Wherry, E. T., 7.
——. *See also* Jurassic, &c.
Oolites, formation of.—Bucher, W. H., 2; Cayeux, L., 1; Van Tuyl, F. M., 5.
——, organic, in Ordovician.—Van Tuyl, F. M., 7.
——, Pliocene.—Wieland, G. R., 2.
——, in shale.—Tarr, W. A., 5.
Oolitic texture, origin of.—Brown, T. C., 1.
Ooliticia.—Cossmann, M., 5.
Oostrombus.—Savornin, J., 1.
Opabinia.—Walcott, C. D., 11.
Opal, Madagascar.—Lacroix, A., 5.
——, New South Wales.—Newton, R. B., 2.
——, S. Australia.—*See* SOUTH AUSTRALIA, 8.
Opaque minerals, microscopical determination of.—Murdoch, J.
Operculina.—Chapman, F., 1; Douvillé, H., 20 & 22; Yabe, H., 6.
Ophiacodon.—Broom, R., 3.
Ophioderma & *Ophioglypha.*—Clark, W. B., 3.
Ophioglossum.—Antevs, E., 2.
Ophiolepis.—Embrey, G., 1; Horwood, A. R., 1; Lanquine, A.
Ophiolithic rocks, Liguria.—Preller, C. S. du R., 10 & 11.
Ophiopsis.—Woodward, A. S., 27.
Ophites, Pyrenees.—Lacroix, A., 31 & 51.
Ophiuridæ, Rhætic.—Lanquine, A.
Ophryastites.—Cockerell, T. D. A., 19.
Ophthalmosaurus.—Andrews, C. W., 1.
Opis.—Cossmann, M., 5; Spitz, A., 1; Waring, C. A.
Opisaster.—Fourtau, R., 6.
Oppelia.—Douvillé, R.
OPPENHEIMER, L., *Obit.*—*See* Anon., 68.
Optic axes, limit of error in.—Panebianco, H.
—— ——, in monoclinic felspars.—Kôzu, S., 6.
Orcanthus.—Eastman, C. R., 2.
Oran (Algeria).—Dalloni, M., 5, 8 & 11; Joleaud, L., 8; Rey, F.
Orange Free State.—Shand, S. J., 3 & 5.
Orangedale (Nova Scotia).—Hayes, A. O., 3.
Orbicella.—Vaughan, T. W., 12; Yabe, H., 7.
Orbicular granite, Co. Donegal.—Cole, G. A. J., 7.
Orbiculina.—Cushman, J. A., 1.
Orbiculoidea.—Bolton, H., 1; Branson, E. B., 3 & 5; Hede, J. E., 2; Mansuy, H., 1; Reed, F. R. C., 4; Weller, S., 1; Williams, H. S., 2; Williams, M. Y., 4.
Orbitoidea.—Douvillé, H., 7, 8 & 16.

Orbitoides.—Douvillé, H., 7 & 22; Prever, P. L.

—— beds, America & West Indies.—Douvillé, H., 5, 6, 15, 17, 24 & 28.

Orbitolites.—Cushman, J. A., 2; Dall, W. H., 2; Douvillé, H., 22.

Orbulina.—Smith, J., 1.

Ord Hill (Aberdeen).—Mackie, W.

Ordovician, Alaska.—Kirk, E., 2.

——, America.—Bassler, R. S., 1.

——, —— & Europe.—Grabau, A. W., 3.

——, Australia (Central).—Etheridge, R. *fil.*, 4.

——, Ayrshire.—Reed, F. R. C., 4.

——, Baltic & Eastern N. America.—Raymond, P. E., 3.

——, Canada.—Foerste, A. F., 1; Raymond, P. E., 1–3.

——, Carnic Alps.—Vinassa de Regny, P., 1 & 3.

——, Cincinnati.—Braun, E. L.

——, Esthonia.—Twenhofel, W. H., 3.

——, Iowa.—Slocom, A. W.

——, Kentucky.—Miller, A. M., 1.

——, Merionethshire.—Cox, A. H., 8.

——, New Brunswick.—McLearn, F. H., 1.

——, New Zealand.—Hall, T. S., 4 & 5.

——, Norway.—Holtedahl, O., 1.

——, Oklahoma.—Powers, S., 9.

——, Pennsylvania.—Field, R. M., 2.

——, Spain.—Sampelayo, P. H., 1.

——, Sweden.—Grœnwall, K. A., 5; Hadding, A., 1–3; Isberg, O., 1 & 3; Sjœberg, S., 1 & 2; Westergård, A. H., 1.

——, Tonkin.—Deprat, J., 14; Mansuy, H., 4.

——, Victoria.—Harris, W. J.

——, Virginia.—Shuler, E. W., 1.

——, Washington.—Smith, W. S., 2.

——, Wisconsin.—Bagg, R. M.

——, Yünnan.—Reed, F. R. C., 3 & 6.

——, oolites in the.—Van Tuyl, F. M., 7.

Ore beds, occurrence, &c.—Beyschlag, F.

—— bodies, formation of.—Kendall, J. D., 2.

—— deposition, faulting &.—Spurr, J. E., 3.

—— deposits, Alaska.—Johnson, B. L.; Wright, C. W.

—— ——, Algeria.—Brives, A., 1.

—— ——, Arizona.Reber, L. E., *fil.*; Schrader, F. C., 3–5.

—— ——, Australia.—Andrews, E. C., 1.

—— ——, British Columbia.—Bruce, E. L., 4; Drysdale, C. W., 1–7; Reinecke, L., 2.

—— ——, Burma.—Brown, J. C., 8; Campbell, J. M., 3.

Ore deposits, California.—Clark, C. W., Graton, L. C., 1 & 2.

—— ——, Carinthia.—Penny, F. W.

—— ——, Colorado.—Bastin, E. S., 1 & 5; Means, A. H., 1.

—— ——, Connecticut.—Howe, E.

—— ——, Idaho.—Umpleby, J. B., 1 & 3.

—— ——, Japan.—Kato, T., 1–5.

—— ——, Korea.—Higgins, D. F.

—— ——, Mexico.—Galvez, V., 6; Prescott, B., 2.

—— ——, Missouri.—Bain, H. F., 3; Buehler, H. A.

—— ——, Montana.—Billingsley, P., 3; Sales, R. H.

—— ——, Morocco.—Marín, A., 1.

—— ——, Nevada.—Hale, F. A.; Spurr, J. E., 2.

—— ——, Ontario.—Bateman, A. M., 1; Collins, W. H., 7; Goodchild, W. H., 6; Uglow, W. L., 2.

—— ——, Queensland.—Gaby, W. E.

—— ——, Rhodesia.—Zealley, A. E. V., 1, 3 & 6–8.

—— ——, Russia.—Nishihara, G. S., 2.

—— ——, S. Africa.—McDonald, D. P.

—— ——, Sweden.—Eskola, P., 4; Geijer, P., 5, 7, 9 & 11–14; Lindroth, G. T., 3.

—— ——, Tasmania.—Reid, A. M., 1 & 2.

—— ——, Ural Mts.—Preston, T. H.

—— ——, Utah.—Butler, B. S., 2, 4 & 6–8; Crane, G. W.

—— ——, Washington.—Jones, E. L., 3.

—— ——, Western Australia.—Clark, E. de C., 1–3; Feldtmann, F. R., 1–4.

—— ——, chalcocite in.—Graton, L. C., 3.

—— ——, chloritic material in.—Ross, C. S.

—— ——, classification of.—Quirke, T. T., 2.

—— ——, colloidal migration in.—Clark, J. D., 2.

—— ——, effect of cross faults on.—Soper, E. K., 3.

—— ——, evolution of, from igneous magmas.—Goodchild, W. H., 7.

—— ——, "garnet zones" &.—Lindgren, W., 4; Umpleby, J. B., 2.

—— ——, geology of.—Knopf, A., 7.

—— ——, igneous intrusions &.—Loughlin, G. F., 4.

—— ——, lateritic.—Miller, W. G., 2.

—— ——, metamorphic.—Prescott, B., 1.

—— ——, occurrence, origin, &c.—Beyschlag, F.,; Meunier S., 22

—— ——, origin of.—Daly, R. A., 5; Pirsson, L. V., 2; Spurr, J. E., 1; Uglow, W. L., 1.

Ore deposits, "shoots" in.—Grout, F. F., 1.
Ore-forming compounds, precipitation of.—Wells, R. C., 1.
Oregon (U.S.A.).—Bretz, J. H.; Dickerson, R. E., 4; Foote, W. M.; Merriam, J. C., 10 & 16; Nomland, J. O., 1; Smith, W. D., 3, 5 & 8.
——, minerals.—Lesher, C. E., 1; Mansfield, G. R., 1; Washburne, C. W., 1.
——, production of metals.—Yale, C. G.
——, water-supply.—Henshaw, F. F., 4 & 5; Marshall, R. B., 3, 4 & 10–12; Van Winkle, W., 2.
Oreodaphne.—Sangiorgi, D., 2.
Oreohelix.—Cockerell, T. D. A., 1.
Ores, assay curves for.—Perry, E. H.
——, deposition of.—Bacorn, F. W.
——, deposition & enrichment of.—Graton, L. C., 1 & 2; Lindgren, W., 3; McLaughlin, D. H., 2; Thomae, W. F. A.; Tolman, C. F., *fil.*, 3.
——, electric sorting of —Bergstrœm, G.; Nathorst, H.
——, persistence of, in depth.—Rickard, T. A.
——, production of.—Dunlop, J. P., 2.
——, testing of.—Crook, W. J.
Orestes.—Girty, G. H., 1.
Orford dist. (Quebec).—Harvie, R., 1.
Organic deposits, marine.—Vaughan, T. W., 9.
—— structure, in Huronian.—Grout, F. F., 9.
Organisms, rock-bearing.—Jehu, T. J., 1.
Orgon (S. France).—Cossmann, M., 5 & 6; Kilian, W., 4.
Orijārvi area (Finland).—Eskola, P., 2 & 4; Geijer, P., 11.
Orionastrœa.—Smith, S., 2.
Oriskany Formation, New York.—Clarke, J. M., 4.
—— ——, Virginia.—Weld, C. M., 1.
Orixa.—Reid, C., 6.
Orkney Is.—Saxton, W. I.
Orléanais (France).—Dollfus, G. F., 6.
Ormesson (Seine-et-Marne).—Bergeron, J., 2.
Ornamental stones, Canada.—Parks, W. A., 1.
Ornithella.—Buckman, S. S., 4.
Ornitholestes.—Osborn, H. F., 7.
Ornithomimus.—Osborn, H. F., 8.
Ornopsis.—Wade, B., 2.
Örnsköldsvik (Sweden).—Carlzon, C.
Orofino coalfield (Idaho).—Lupton, C. T., 2.
Orogenic movements, Katanga.—Delhaye, F., 1.
Orography, Victoria.—Hart, T. S.
Orophocrinus.—Bather, F. A., 1.
Orpiment, Maritime Alps.—Orcel, J., 2.
Orria.—Walcott, C. D., 5.
Orsa (Sweden).—Loostrœm, R., 1.
Orthacodus.—Priem, F., 3.
Orthaulax.—Dall, W. H., 2 & 5.
Orthechinus.—Clark, W. B., 3.
Orthis.—Fuchs, A.; Gortani, M., 3; Howell, J. V.; Kegel, W.; Mansuy, H., 1 & 4; Reed, F. R. C., 3 & 4; Savage, T. E., 4; Twenhofel, W. H., 1; Trowbridge, A. C., 3; Vinassa de Regny, P., 3; Williams, M. Y., 11.
Orthite.—Flink, G., 4.
Orthoceras.—Diener, C.; Dunlop, R., 2; Fuchs, A.; Girty, G. H., 1 & 2; Parks, W. A., 2; Reed, F. R. C., 3; Trechmann, C. T., 2; Trowbridge, A. C., 3; Vinassa de Regny, P., 1; Williams, H. S., 2; Williams, M. Y., 11.
Orthoclase.—Dittrich, M., 2; Tschermak, G., 3.
Orthodactylus.—Lull, R. S., 3.
Orthodesma.—Williams, H. S., 2.
Orthogonal structure, Provence.—Guébhard, A., 16.
Orthographic projection, in crystallography.—Hilton, H., 1.
Orthonema.—Mansuy, H., 1.
Orthonota.—Kegel, W.; Mansuy, H., 1.
Orthonychia.—Chapman, F., 6; Gardiner, C. I., 3; Gortani, M., 3.
Orthophlebia.—Cockerell, T. D. A., 14.
Orthophragmina. — Checchia-Rispoli, G., 14; Cushman, J. A., 2; Douvillé, H., 8; Newton, R. B., 10; Prever, P. L.; Rutten, L., 1 & 2.
Orthopsis.—Clark, W. B., 3.
Orthorhyncha.—Reed, F. R. C., 4.
Orthothetes.—Branson, E. B., 5; Etheridge, R., *fil.*, 1; Fuchs, A.; Girty, G. H., 2; Hedstrœm, H., 4; Mansuy, H., 1; Weller, S., 1.
Orthotichia.—Diener, C.
Orthotoma.—Buckman, S. S., 4.
Ortonella.—Garwood, E. J., 1.
Ortonia.—Branson, E. B., 5.
"Orvales" or "Ovailles," the term.—Girardin, P., 7.
Orvillite.—Lee, T. H., 1.
Osagia.—Twenhofel, W. H., 8.
OSBORN, H. F., *Biogr.*—*See* Woodward, A. S., 18.
Osilo (Sardinia).—Serra, A., 5.
OSIMO, Giuseppina, *Obit.*—*See* Silvestri, A.
Osmerus.—Eastman, C. R., 2.
Osmosis, in soils.—Lynde, C. J.
Osmunda.—Baumberger, E., 2.
Osmundaceæ, fossil.—Kidston, R., 3.
Osmundites.—Kidston, R., 3.
Osoyoos mining dist. (B.C.).—Brewer, W. M., 4.
Ossiferous beds, Liguria.—Campana, D. del, 2.
Osteolepis.—Goodrich, E. S., 2; Gregory, W. K., 1; Watson, D. M. S., 11.

Österdal (Norway).—Holmsen, G., 1, 2 & 4; Reusch, H., 11.
Östergötland (Sweden).—Sjœberg, S., 1 & 2; Svenonius, F., 3.
Ostracoda, Cambrian.—Chapman, F., 30.
——, Cretaceous.—Chapman, F., 13 & 18.
——, Devonian.—Maillieux, E., 8.
——, Silurian.—Ulrich, E. O., 4.
Ostrea.—Clark, B. L., 1; Cossmann, M., 7; Dall, W. H., 2; Dickerson, R. E., 6 & 9; Dollfus, G. F., 9; Fourtau, R., 4; Fucini, A.; Greco, B., 4; Luethy, J.; Martin, K.; Newton, R. B., 1; Nomland, J. O., 6; Onetti, A.; Pilsbry, H. A., 3; Rollier, L., 4; Schneid, T.; Vredenburg, E. W.; Waring, C. A.
Ostreidæ, Cretaceous & Eocene.—Vredenburg, E. W.
Otago, Prov. (N.Z.).—Cotton, C. A., 4 & 10; Gudgeon, C. W.; Hall, T. S., 4; Marshall, P., 11; Park, J., 8 & 9; Thomson, J. A., 15 & 18.
Otionella.—Canu, F., 11.
Otoceras beds, Armenia & Himalaya.—Bonnet, P., 2.
Otolithus.—Priem, F., 2 & 5.
Ototriton.—Loomis, F. B., 3.
Otouphepus.—Lull, R. S., 3.
Otozamites.—Knowlton, F. H., 5; Lozano, E. D., 1 & 2; Walkom, A. B., 3 & 5; Wieland, G. R., 1; Zeiller, C. R., 2.
Otozoum.—Lull, R. S., 3.
Otta (Norway).—Werenskiold, W., 4.
Ottawa Co. (Quebec).—Keele, J., 6.
—— dist. (Ontario).—Johnston, W. A., 6.
—— Valley.—Johnston, W. A., 4 & 8; Kindle, E. M., 15.
Otterbäcken (Sweden).—Sandgren, R., 6.
Ottonosia.—Twenhofel, W. H., 8.
Ottrelite schists, Belgium.—Rauw, H. de, 3.
Ouray (Utah).—Schaller, W. T., 5.
Ourcq Valley (France).—Charpiat, R., 13.
Oussa R. (Siberia).—Tolmatcheff, I. P.
Outliers, Carboniferous, Ohio.—Lamb, G. F.
——, Karroo rocks, S. Rhodesia.—Maufe, H. B., 1.
——, ——, Transvaal.—Wagner, P. A., 2.
——, Tertiary, N.Z.—Speight, R., 7.
Over (Gloucestershire).—Reynolds, S. H., 6.
Overfolding, Andalusia.—Gentil, L., 10–12 & 14.
——, French Alps.—Boussac, J., 1; Haug, E., 3.
—— Italy.—Rovereto, G., 1 & 6.
Overfolding, Lausitzer Mts., Austria.—Staff, H. von.
——, Marseilles Basin.—Repelin, J., 7.
——, Northern Morocco.—Gentil, L., 22–25.
Overthrust zone, Caledonian, Brabant.—Fourmarier, P., 6.
—— ——, ——, Sweden.—Frœdin, G., 5.
Overthrusts, Asturias.—Termier, P., 9.
——, Jura.—Heim, Alb., 2.
——, Languedoc.—Termier, P., 14; Thiéry, P., 2 & 3.
——, Liguria.—Franchi, S., 6.
——, Lombardy.—Cacciamali, G. B., 2.
——, Montana.—Haynes, W. P.
——, New York.—Chadwick, G. H., 3.
——, Provence.—Guébhard, A., 11 & 15; Termier, P., 11.
——, Tonkin.—Deprat, J., 11 & 15.
——, Tunisia.—Gentil, L., 18 & 20.
——, Wyoming.—Dake, C. L., 3.
——, formation of.—Belot, E., 12 & 13; Chamberlin, R. T., 4.
——, mechanism of.—Rovereto, G., 2.
Ovibos.—Hay, O. P., 1; Stehlin, H. G., 3.
Ovicells, of Bryozoa.—Canu, F., 9.
Ovifak (Greenland).—Sjœgren, H., 2.
Ovis.—Portis, A., 2.
Ovocystis.—Bather, F. A., 16; Reed, F. R. C., 3.
Ovula.—Douvillé, H., 22.
Owens Lake Basin (California).—Gale, H. S., 1.
Owls, fossil, California.—Miller, L. H., 2.
Oxford Clay, Northamptonshire.—Andrews, C. W., 1 & 3; Smellie, W. R., 1 & 5.
—— —— zones, Buckinghamshire, Davies, A. M., 3.
Oxfordian, Eastern France.—Joly, H.
——, Woëvre.—Steinmann, G., 5.
Oxfordshire.—Arber, E. A. N., 2 & 4; Bayzand, C. J.; Odling, M., M., 1–3; Walford, E. A., 1, 3 & 4.
Oxhey (Herts.).—Kidner, H., 2.
Oxidation, of coal.—Graham, J. I., 1 & 2.
Oxley Creek (Queensland).—Reid, J. H., 5.
Oxshott (Surrey).—Grist, C. T., 1.
Oxted (Surrey).—Fagg, C. C., 1.
Oxyœna.—Matthew, W. D., 11.
Oxycera.—Cockerell, T. D. A., 19.
Oxygen, absorption of, by coal.—Winmill, T. F., 2 & 3.
——, solubility of, in water.—Adeney, W. E.; Heise, G. W., 9.
——, in sea water.—Gaarder, T., 1 & 2.

Oxygonus.—Wickham, H. F., 1.
Oxynoticeras.—Lang, W. D., 11.
Oxyrhina.—Llueca, F. G.; Pieragnoli, L.; Priem F., 1; Stefano, G. de, 4.
Oxytoma.—Krenkel, E.
Oyarzun (Spain).—Gascue, F., 1 & 2.
Ozark Region (Missouri).—Buehler, H. A.
Ozarkian Formation, U.S.A.—Wieland, G. R., 2.
Ozieri (Sardinia).—Serra, A., 7.
Ozokerite, Utah.—Robinson, H. M.

Pa-Hka (Tonkin).—Deprat, J., 7.
Pachuca (Mexico).—Ordoñez, E., 2.
Pachyœna.—Matthew, W. D., 11.
Pachycardia.—Mansuy, H., 1.
Pachycheles.—Rathbun, M. J., 4.
Pachydera.—Lang, W. D., 9.
Pachydictya.—Bekker, H.
Pachydiscus.—Yabe, H., 2.
Pachygonosaurus.—Huene, F. von, 2.
Pachymagas.—Thomson, J. A., 4.
Pachypteris.—Antevs, E., 2.
Pachysomites.—Cockerell, T. D. A., 19.
Pachyteichisma.—Oppliger, F.
Pacific Coast (Mexico).—Palacios, E. J.
—— —— (N. America).—Chandler, A. C., 2; Clark, B. L., 6; Dall, W. H., 4; Diller, J. S., 1; Kew, W. S. W., 1 & 2; Merriam, J. C., 4 & 11; Nomland, J. O., 4; Pack, R. W., 2; Packard, E. L., 2.
—— —— Drainage Basins, water-supply.—Henshaw, F. F., 1 & 3; McGlashan, H. D.
—— Islands.—Daly, R. A., 6 & 8; Iddings, J. P., 2 & 9; Matthew, W. D., 5.
—— Ocean, abyssal temperatures.—Clark, A. H., 3 & 4.
——, coral reefs.—Cary, L. R., 2; Davis, W. M., 2, 3, 5–10, 15 & 17–19.
——, diastrophism in the.—Schuchert, C., 5.
——, distribution of invertebrata.—Dall, W. H., 3.
——, former connection of, with Atlantic.—Dickerson, R. E., 7.
——, German Colonies in the.—*See* IMPERIAL INSTITUTE, 5.
——, gravity observations in the.—Hayford, J. F., 2.
——, history of the.—Repelin, J., 11.
——, land snail faunas.—Pilsbry, H. A., 1.
——, oceanography.—Littlehales, G. W.
——, volcanic domes.—Powers, S., 6.
Pœdumias.—Walcott, C. D., 11.
Pagetia.—Walcott, C. D., 5.
Pagiophyllum.—Knowlton, F. H., 5; Marty, P., 1; Walkom, A. B., 4 & 5.
Pahang Volcanic Series, Malay Peninsula.—Willbourn, E. S., 2.
Paisley (Renfrewshire).—Macnair, P., 6.
Pakaurangi Point, Kaipara (N.Z.).—Marshall, P., 13.
Pakokku District (Burma).—Cotter, G. de P., 1.
Palœachlya.—Etheridge, R., *fil.*, 1.
Palœaster.—Schuchert, C., 2.
Palœobalistum.—Erasmo, G. d', 1.
Palæobotany.—Halle, T. G., 6; Wieland, G. R., 5.
——. *See also* Fossil Botany.
Palœocardita.—Trechmann, C. T., 2.
Palœochenoides.—Shufeldt, R. W., 3; Wetmore, A.
Palœocreusia.—Withers, T. H., 2.
"Palæocreux," in coal-fields, N. France.—Gosselet, J., 3.
Palœofavosites.—Williams, M. Y., 11.
Palœogale.—Helbing, H.
Palæogene, Asia—Borissiak, A.
Palæogeography, Devonian.—Grabau, A. W., 2.
——, Main Basin, Germany.—Wenz, W.
——, Oligocene, Washington.—Weaver, C. E., 5.
——, Palæozoic.—Holtedahl, O., 8.
——, Permian & Mesozoic.—Schuchert, C., 7.
——, post-Jurassic, Australia.—Andrews, E. C., 4 & 9.
——, pre-Cambrian. — Ruedemann, R., 3.
——, Tertiary, Equatorial Africa.—Berry, E. W., 16.
——, ——, Patagonia.—Windhausen, A., 1.
Palœogeron.—Meunier, F.
Palæolithic age, Egypt.—Petrie, W. M. F., 1 & 2.
—— settlements, Algeria.—Rutot, A., 3.
—— ——, Balme-de Voreppe (Isère).—Muller, H.
—— ——, Cotencher.—Lardy, E.
—— ——, Dordogne.—Mortillet, A. de; Reverdin, L.
—— ——, Hertfordshire.—Kendall, H. G. O., 3.
—— ——, Jersey.—Fallaize, E. N.; Gruchy, G. F. B. de; Warton, R. G.
—— ——, Kent.—Chandler, R. H., 1.
—— ——, Le Havre.—Romain, G.
—— ——, Mealhada (Portugal).—Fontes, J., 3.
—— ——, Oxfordshire.—Peake, A. E., 1.
—— ——, Savoy.—Montandon, R., 1 & 2.
—— ——, Sicily.—Stefani, C. de, 5.
—— ——, Somme Valley.—Commont, V., 1.
—— ——, Spain.—Hernandez-Pacheco, E., 2.

Palæolithic settlements, Sumatra.—Sarasin, P., 1.
—— ——, Sweden.—Rosén, N.
—— ——, Vachons (Charente).—Coiffard, J.
—— ——, Veyrier.—Cartier, A.
—— workshop, Cornwall.—Marsden, J. G., 1 & 2.
—— ——, Ipswich.—Moir, J. R., 1.
——. *See also Homo.*
Palæomyces.—Ellis, D., 1 & 4.
Palæoneilo.—Branson, E. B., 5; Trechmann, C. T., 2; Williams, H. S., 2.
Palæoniscid fish, Permian, S. Dakota.—Hussakof, L., 1.
Palæontology, Cambrian.—Illing, V. C., 2.
——, experimental.—Fraipont, C., 3.
——, invertebrate.—Woods, H.
——, new methods of determination in.—Cottreau, J., 2.
——, in Paris.—Lacroix, A., 70.
——, present tendencies in.—Berry, E. W., 21.
——, Rontgen rays &.—Field, R. M., 1.
——, vertebrate.—Lull, R. S., 9; Woodward, A. S., 1.
Palæo-Œcology.—Clements, F. E.
Palæophasianus.—Shufeldt, R. W., 2.
Palæophichthys.—Eastman, C. R., 2.
Palæophyllophora.—Revilliod, P., 2.
Palæopithecus.—Gregory, W. K., 5.
Palæoplatyceros. — Hernandez-Pacheco, E., 1.
Palæopotamogeton.—Knowlton, F. H., 4.
Palæorhinus.—Mehl, M. G., 1.
Palæoryx.—Pavlow, M., 1.
Palæosimia.—Gregory, W. K., 5; Pilgrim, G. E., 5.
Palæsolaster.—Schuchert, C., 2.
Palæosolen.—Williams, H. S., 2.
Palæosoma.—Jackson, J. W., 8.
Palæospinax.—Lambe, L. M., 5.
Palæostylus.—Mansuy, H., 2.
Palæosyops.—Gregory, W. K., 5.
Palæotherium.—Depéret, C., 5.
Palæotragus.—Pavlow, M., 1.
Palæotringa.—Shufeldt, R. W., 2.
Palæoxylon.—Berry, E. W., 6.
Palæozoic, Arizona.—Ransome, F. L., 2 & 3.
——, Canada.—Kindle, E. M., 15; Parks, W. A., 2.
——, Finmark.—Holtedahl, O., 7.
——, Glamorgan.—North, F. J., 2 & 3.
——, Hudson Bay.—Savage, T. E., 6 & 8.
——, Indo-China.—Deprat, J., 6, 9, 12, 14 & 18; Mansuy, H., 1–4.
——, N. America.—Grabau, A. W., 8.
——, Ontario.—Hume, G. S.
——, Queensland.—Etheridge, R., *fil.*, 6.
Palæozoic,, Rocky Mountains.—Tomlinson, C. W., 3.
——, Sardinia.—Termier, P., 1.
——, Spain.—Sampelayo, P. H., 1.
——, United States.—Bassler, R. S., 2.
——, Victoria.—Chapman, F., 5, 6, 9, 10, 20–24, 27, 28, 33 & 35.
——. *See also* Silurian, &c.
Palæozoic climates.—Antevs, E., 7.
—— Crustacea, bibliography.—Vogdes, A. W.
—— distribution of land & sea.—Holtedahl, O., 8.
—— floor, London Basin.—Baker, H. A., 1.
—— ——, N.E. Ireland.—Wright, W. B., 4.
—— glaciation, Alaska.—Kirk, E., 1.
—— ——, S. Africa, Cloos, H., 2.
Palæozoology, nomenclature in.—Féjérvary, Baron G. J. de.
Palamopus.—Lull, R. S., 3.
Palar R. (India.).—Stoney, E. W.
Palasterina.—Spencer, W. K., 1.
Palazzo Adriano (Sicily).—Stefano, G. de, 1.
Palembang Residency (Sumatra).—Moerman, C.
Paleocene, Belgian Congo.—Hussakof, L., 6.
——, Colorado.—Matthew, W. D., 6.
——, New Mexico.—Sinclair, W. J., 5.
——, N. Dakota.—Gidley, J. W., 2.
——, United States.—Granger, W., 2.
Palermo (Sicily).—Gregorio, A. de, 5.
Palestine, climate of ancient.—Gregory, J. W., 37.
——, water-supply.—Maxwell, W. H.
Palidan (Philippine Is.).—Lednicky, V. E.
Palissya.—Wherry, E. T., 10.
Paliurus.—Matson, G. C., 3.
Palladium, Nevada.—Knopf, A., 1.
——, in copper ores.—Mingaye, J. C. H., 1.
Pallasca, Prov. (Peru).—Léon, J. M. Y.
Pallet (Loire Inférieure).—Lacroix, A., 60.
Palm, a Cretaceous.—Berry, E. W., 6.
Palma, Bay of (Majorca).—Buen y Lozano, R. de.
Palmerite.—Doelter, C., 1.
Palmerton (Pennsylvania).—Fiske, C. P.
Palmicellaria.—Faura, M.
Palmoxylon.—Berry, E. W., 18; Matson, G. C., 3.
Palo Pinto Co. (Texas).—Wegemann, C. H., 7.
Palorchestes.—Scott, H. H.
Paltopleuroceras.—Zuffardi, P., 1.
Paltostomopsis.—Cockerell, T. D. A., 14.
Paludestrina.—Johansen, A. C.

Pamir, Plateau (Cent. Asia).—Galitzin, Prince B., 2; Hayden, Sir H. H., 4.

Pampas Formation (Argentina).—Meigen, W.

Panama, Isthmus of (Cent. America).—Berry, E. W., 18; Canu, F., 13; Cushman, J. A., 1 & 2; Douvillé, H., 17; MacDonald, D. F., 1 & 2; Pilsbry, H. A., 2; Rathbun, M. J., 4; Vaughan, T. W., 12 & 13.

—— Canal Zone.—Becker, G. F., 3; Dall, W. H., 6; Jackson, R. T.; *see also* NATIONAL ACADEMY OF SCIENCES, WASHINGTON.

—— Canals, ancient.—Dickerson, R. E., 7.

Panamint Lake Basin (California).—Gale, H. S., 1.

Panay (Philippine Is.).—Smith, W. D., 2.

Pandeleteinus.—Wickham, H. F., 3.

Pandora.—Clark, B. L., 5; Morgan, J. de, 1.

Pangkadjene (Celebes).—Steiger, H. von.

Panopœa.—Marshall, P., 7 & 8; Newton, R. B., 1; Spitz, A., 1.

Panope.—Clark, B. L., 1; Dall, W. H., 2.

Panopeus.—Rathbun, M. J., 4.

PANTANELLI, D., *Obit.*—*See* Parona, C. F., 1.

Pantylus.—Williston, S. W., 7.

Papakaio dist. (N.Z.).—Uttley, G. H., 3.

Paphia.—Clark, B. L., 1.

Papillicardium.—Newton, R. B., 1.

PAPOINT, J., *Obit.*—*See* Boule, M.

Papua.—Chapman, F., 1 & 25; Langford, W. G., 2; *see also* AUSTRALIA, 1 & 4–14.

Parabolinella.—Westergård, A. H., 1.

Parabrachyodus.—Cooper, C. F.

Paracupressinoxylon.—Sinnot, E. W., 3.

Paracyclas.—Spriestersbach, J.

Paracypris.—Chapman, F., 18.

Paracystis.—Sjœberg, S., 1.

Paradise Valley (Arizona).—Meinzer, O. E., 6.

Paradoxides.—Illing, V. C., 1.

Paradunstania.—Tillyard, R. J., 5.

Parafundulus.—Eastman, C. R., 2.

Paragenesis, of minerals.—Greenwood, H. W., 1.

Paragonite.—Doelter, C., 2.

Paraguay.—Beder, R.

Parahipparion.—Sefve, I., 2.

Parahippus.—Merriam, J. C., 15; Osborn, H. F., 10.

Parahopeite.—Ledoux, A., 10.

Parahyba (Brazil).—Soper, R. H.

Paralegoceras.—Molengraaff, G. A. F., 4.

Parallelodon.—Girty, G. H., 3.

Parallelopora.—Dehorne, Y., 2.

Paramachœrodus.—Pilgrim, G. E., 6.

Paramecoptera, Permian.—Tillyard, R. J., 11.

Paramorea.—Wade, B., 3.

Parana, State (Brazil).—Anon., 104.

Paranomus.—Wickham, H. F., 1.

Paraparchites.—Girty, G. H., 2.

Parapithecus.—Gregory, W. K., 5.

Paraprososthenia.—Annandale, N., 1.

Pararca.—Mansuy, H., 2.

Parasmilia.—Filliozat, M., 2.

Parasphenoid, of Palæoniscoid.—Day, H., 1.

Parastrophia.—Reed, F. R. C., 4.

Parasuchian, Triassic.—Sinclair, W. J., 4.

Paratrichoptera, Triassic.—Tillyard, R. J., 6.

Parco Chigi (Alban Hills).—Starabba, F. S.; Zambonini, F., 8.

Paré-Paré (Celebes).—Knijff, J. de K.

Paredrite.—Farrington, O. C., 3.

Pareiasaurus.—Broom, R., 5.

Parensart (Belgium).—Anten, J., 4.

Pareora dist. (N.Z.).—Gudex, M. C.

Pargas (Finland).—Karlsson, G.

Parijs (Orange Free State).—Shand, S. J., 3 & 5.

Paris, Palæontology in.—Lacroix, A., 70.

Paris Basin.—Canu, F., 7; Cossmann, M., 1; Dollot, A., 1–9; Dubuisson, R.; Jodot, P.; Lambert, J., 4; Lemoine, P., 1; Leriche, M., 1.

Paris-Chartres Railway section.—Ramond, G.

Park City (Utah).—Humes, J.; Van Horn, F. R., 1 & 4.

Park Co. (Wyoming).—Dake, C. L., 3.

Parka.—Don, A. W. R.

PARKER, W. A., *Obit.*—*See* Harker, A., 6; Sheppard, T., 16; & Woodward, H., 3.

Parkinsonia.—Nicolesco, C., 4.

Paronœa.—Prever, P. L.

Parthenina.—Cerulli-Irelli, S., 1.

Parthenope.—Rathbun, M. J., 4.

Particles, fall of, through liquid columns.—Knott, C. G., 2.

——, size of, in deep sea deposits.—Odén, S., 2.

Parvirhynchia.—Buckman, S. S., 4.

Paryphorhynchus.—Weller, S., 1.

Pas-de-Calais, Dept. (France).—Barrois, C., 4; Mettrier, —.

Pasitheola.—Cossmann, M., 1.

Passage beds, Silurian-Devonian, N. France.—Barrois, C., 4.

Passaic Co. (New Jersey).—Fenner, C. N., 1.

Passerina.—Welsch, J., 1.

Passes, Alpine.—Freshfield, D. W., 3.

Passy (France).—Dollot, A., 3.

Patagonia (S. America).—Bæckstrœm, O.; Halle, T. G., 1; Principi, P., 3; Windhausen, A., 1 & 3.

—— Mts. (Arizona).—Schrader, F. C., 3 & 4.

Patanophyma.—Oppliger, F.

Patella.—Dickerson, R. E., 9; Rollier, L., 5; Trechmann, C. T., 2.
Patellostium.—Girty, G. H., 1 & 2.
Paterula.—Reed, F. R. C., 4.
Pathology, Mesozoic.—Moodie, R. L., 9–12.
Patination, of flints.—Hewitt, H. D., 2.
Patula.—Roman, F., 2.
Pavin, Crater-lake (Auvergne).—Glangeaud, P., 3.
Pavlovsk (Russia).—Chapman, S., 1.
Pavo.—Miller, L. H., 1.
Pavona.—Vaughan, T. W., 12.
Peace R. section (Alberta).—McLearn, F. H., 7.
Peak Hill gold field (Western Australia).—Clarke, E. de C., 1; Talbot, H. W. B., 1.
Peakshill (Derbyshire).—Day, H., 3.
Peat, Auvergne.—Glangeaud, P., 7 & 15.
——, Brittany.—Galaine, C., 2; Lesne, P., 1 & 2.
——, Canada.—Anrep, A., 1–3.
——, Denmark.—Jessen, A., 5.
——, Italy.—Sani, G.
——, Minnesota.—Soper, E. K., 2.
——, Spain.—Rubio, J. M., 1.
——, Sweden.—Gavelin, A., 6; Halden, B. E., 3; Post, L. von, 1, 2, 6 & 7.
——, Switzerland.—Monnier, A.
——, blocks of, in Kattegat.—Andersson, G.
——, formation of.—Potonié, H.; Stevenson, J. J., 2.
——, utilisation of.—Blizard, J., 1; Haanel, B. F., 1; *see also* IMPERIAL INSTITUTE, 10.
Peat beds, Devonian.—Horne, J., 7.
—— surface, submergence of the.—Warren, S. H., 6.
Pebatuan R. (Celebes).—Hœvig, P., 2.
Pebble-beds, Bunter, Nottinghamshire.—Burton, T. H.
——, ——, Lancashire.—Harris, A. W.
Pebbles, facetted, in glacial deposits.—Jackson, J. W., 4.
——, igneous, in Silurian conglomerate.—Junner, N. R., 3.
——, intraformational.—Foerste, A. F., 2.
——, salt water.—Dunn, E. J., 1.
——, shape of.—Gregory, H. E., 2.
——, striated.—Meunier, S., 7.
——, unusual method of rounding.—Jutson, J. T., 10.
Pecopteris.—Arber, E. A. N., 1; Kryshtofovich, A., 2; Stopes, M. C., 1; Zeiller, C. R., 2.
Pecten.—Anderson, F. M.; Clark, B. L., 1 & 5; Cossmann, M., 5 & 7; Dall, W. H., 2 & 5; Das-Gupta, H. C., 2; Dickerson, R. E., 9; Krenkel, E.; Mansuy, H., 1; Marshall, P., 13; Moody, C. L., 1; Nomland, J. O., 5 & 6; Onetti, A.; Paris, E. T.; Ravn, J. P. J., 2, 5 & 6; Rollier, L., 3; Spitz, A., 1; Trechmann, C. T., 2; Waring, C. A.
Pectinidæ, Jurassic.—Paris, E. T.
Pectolite.—Flink, G., 1.
Pectunculus.—Cossmann, M., 8; Llueca, F. G.
Pedinopsis.—Clark, W. B., 3; Stefanini, G., 4.
Pediœcetes.—Shufeldt, R. W., 2.
Pedra Furada (Portugal).—Costa, A. I. Marques da.
Pedregal de San Angel (Mexico).—Wittich, E., 3.
PEETZ, H. de, *Obit.*—*See* Lehmann, V.
Peganite.—Moschetti, L.
Pegmatite & Pegmatite schist, Massachusetts.—Emerson, B. K., 1.
Pegmatites, Alabama.—Van Horn, F. R., 3.
——, Finland.—Mækinen, E., 1.
——, Madagascar.—Lacroix, A., 23 & 74; Sabot, R. C., 1.
——, Minnesota, in Duluth gabbro.—Grout, F. F., 3.
——, New York (N.).—Miller, W. J., 7.
——, Norway.—Schetelig, J.
——, Virginia, zircon-bearing.—Watson, T. L., 3.
——, copper sulphides in.—McLaughlin, D. H., 1.
Pelagic facies, absence of, in sedimentary series.—Meunier, S., 13.
"Pele's Tears."—Moore, E. S., 2.
Pelecypoda.—*See* Lamellibranchia.
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Pelmatoporinæ, evolution of the.—Lang, W. D., 9.
Pelonax.—Repelin, J., 10.
PELOURDE, F., *Obit.*—*See* Mangin, L.
Peltopleurus.—Andersson, E., 2; Bassani, F., 2.
Peltostega.—Wiman, C., 3.
Pelycodus.—Gregory, W. K., 5; Matthew, W. D., 14.
Pelycosauria, Permian.—Broom, R., 3.
——, skulls of.—Watson, D. M. S., 5.
Pembina Mt. (Manitoba).—MacLean, A., 1.
Pembrokeshire.—Cantrill, T. C., 2 & 5; Cox, A. H., 1; Leach, A. L., 1, 6 & 8.
Pen-hsi-hu (Manchuria).—Wang, C. F., 1 & 2.
Peneplain, Appalachian.—Shaw, E. W., 12.
——, Idaho.—Lindgren, W., 8; Livingston, D. C.; Rich, J. L., 6.

Peneplain, Kansas.—Beede, J. W., 2.
——, New Zealand.—Cotton, C. A., 2 & 4.
——, pre-Cambrian, Sweden.—Frœdin, G., 5.
——, Western Australia.—Gregory, J. W., 21.
——, the term.—Ahlmann, H. W., 4; Gregory, J. W., 22.
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Penmænmawr (Carnarvonshire).—Sargent, H. C., 1 & 2.
Pennine Range (England).—Fawcett, C. B.; Jowett, A.; Wilmore, A., 2.
Pennsylvania (U.S.A.).—Butts, C., 4; Eaton, H. N.; Field, R. M., 2; Hintze, F. F.; Jonas, A. I.; Mook, R. R.; Schuchert, C., 8; Sinclair, W. J., 3 & 4; Stose, G. W.; Verwiebe, W. A., 1–3; Wherry, E. T., 1, 7, 10 & 12.
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——, fire-clay deposits.—Morganroth, L. C., 2.
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—— ——, Kansas.—Twenhofel, W. H., 4.
—— ——, Nova Scotia.—Hyde, J. E., 1 & 3.
—— ——, Oklahoma,—Jillson, W. R., 1.
Pentaceros.—Clark, W. B., 3.
Pentacrinus.—Clark, W. B., 3; Nielsen, K. B., 1; Springer, F., 2.
Pentagonaster.—Chapman, F., 16; Clark, W. B., 3.
Pentameroceras.—Parks, W. A., 2.
Pentamerus.—Gortani, M., 3; Reed, F. R. C., 4; Savage, T. E., 4; Vinassa de Regny, P., 1; Williams, M. Y., 11.
Pentellina.—Newton, R. B., 10.
Pentlandite, Sudbury.—Walker, T. L., 1.
Pentremites.—Clark, T. H.
Perak (Malay States).—Scrivenor, J. B., 8.
Peratotoma.—Cipolla, F.
Perda Niedda (Sardinia).—Manasse, E., 1.
Pereiraia.—Savornin, J., 1.
Periarchus.—Clark, W. B., 3.
Periastron.—Scott, D. H., 9.
Periclase.—Cesàro, G., 12; Rogers, A. F., 8.
Pericline.—Lewis, W. J.
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Pericosmus.—Stefanini, G., 5.
Pericyclus.—Hind, W., 1.
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Peroporosella.—Canu, F., 11.
Perisphinctes.—Krenkel, E.; Nicolesco, C., 1; Ronchadzé, J.; Schneid, T.; Steiger, P.; Swinnerton, H. H., 4.
Perisphinctinæ, morphology.—O'Connell, M.
Perissodactyla, Tertiary.—Pavlow, M., 1.
——, absence of pollex in the.—Matthew, W. D., 7.
Perissolax.—Dickerson, R. E., 5 & 6; Marshall, P., 8; Waring, C. A.
Perissophlebia.—Tillyard, R. J., 4.
Perissoptera.—Cossmann, M., 5.
Permian, Ariège.—Caralp, J.
——, Armenia.—Stoyanow, A.
——, Arran.—Gregory, J. W., 18; Tyrrell, G. W., 5.
——, Australia.—Gregory, J. W., 35.
——, Durham.—Woolacott, D., 1–3.
——, England.—Ferrar, H. T., 1; Gilbert, C. J., 1.
——, French Jura.—Bourgeat, l'Abbé, 7.
——, Italy.—Lotti, B., 5.
——, Japan.—Hayasaka, I., 3.
——, Laos States.—Mansuy, H., 1.
——, Letti I. (E. Indies).—Molengraaff, G. A. F., 4.
——, New Mexico.—Douthitt, H.
——, New South Wales.—Tillyard, R. J., 8.
——, Oklahoma.—Beede, J. W., 1.
——, Sardinia.—Novarese, V., 4.
——, Sicily.—Stefani, C. de. 7.
——, S. Africa.—Broom, R., 3 & 5; Watson, D. M. S., 1.
——, S. Dakota.—Hussakof, L., 1.
——, Switzerland.—Disler, C.
——, Texas.—Udden, J. A., 4; Williston, S. W., 6.
——, Tonkin.—Deprat, J., 18.
——, United States.—Williston, S. W., 1 & 2.
——, Western Alps.—Preller, C. S. du R., 5.
——, Western Pyrenees.—Stuart-Menteath, P. W., 3.
—— & Permo-Carboniferous, Southern Hemisphere.—Chapman, F., 32; Kitson, A. E., 3; Skeats, E. W., 7; Watson, D. M. S., 9.
Permo-Carboniferous, Belgian Congo.—Robert, M.
——, Eastern Asia.—Deprat, J., 2.
——, Himalaya.—Diener, C.
——, Indo-China.—Mansuy, H., 2.
——, Massachusetts.—Sayles, R. W., 2.
——, New Mexico.—Williston, S. W., 5.

Permo-Carboniferous, New South Wales.—Harper, L. F., 3.
——, New Zealand.—Marshall, P., 12; Morgan, P. G., 5; Trechmann, C. T., 3.
——, Queensland (N.).—Reid, J. H., 1.
——, Sicily.—Gregorio, A. de, 6; Stefano, G. de, 1.
——, S. Africa.—Rogers, A. W., 10.
——, S. America.—Coleman, A. P., 11.
——, Tasmania.—Dun, W. S., 1; Twelvetrees, W. H., 10.
——, United States, correlation.—Case, E. C., 5.
——, —— (W.).—Tomlinson, C. W., 1.
——, the term.—Dun, W. S., 2.
Permo-Trias, Belgian Congo.—Fourmarier, P., 2.
——, Lancashire (S.W.).—Jones, T. A., 2.
——, Solway Basin.—Gregory, J. W., 5.
Permochorista.—Tillyard, R. J., 8, 9 & 11.
Permofulgor & *Permoscarta.*—Tillyard, R. J., 8.
Perna.—Fucini, A.; Cossmann, M., 7; Krenkel, E.; Ravn, J. P. J., 6; Rollier, L., 2; Schwarz, E. H. L., 1.
PEROCHE, J., *Obit.*—*See* Gosselet, J., 4.
Peronoceras.—Zuffardi, P., 1.
Peronopora.—Cumings, E. R., 2.
Peronosporites.—Ellis, D., 4.
Perran (Cornwall).—Davison, E. H.; Rogers, W.
Perse.—Clark, B. L., 5.
Persea.—Colani, M.; Sangiorgi, D., 2.
Perseverance Mine (Western Australia).—Cloutman, W. R.
Persia.—Fraser, J. B.
Perthshire.—Bates, G. F., 2.
Peru.—Barclay, W. S.; Gregory, H. E., 6; Lapworth, C.; Luethy, J.; Zeiller, C. R., 2.
——, coal-fields.—León, J. M. Y.
——, minerals.—Guzman, J. M.; Jimenez, C. P., 1–5; Ulloa, L.; *see also* PERU.
——, water-supply.—Portocarrero, J. N., 1 & 2; Sutton, C. W., 1 & 2; Torres, A. D.
—— (Southern).—Basadre, C.; Gerth, H., 2.
Péruzet (Charente).—Chauvet, G.
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Pes, structure of, in *Mylodon.*—Stock, C., 4.
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Petäjävesi, Lake (Finland).—Ruoranen, A. R.
Petalite.—Comucci, P., 2; Deolter, C., 2; Flink, G., 1.
Petalograptus.—Dollé, L., 1.
Peterborough (Northants.).—Andrews, C. W., 1 & 3.
Petraia.—Yakovlev, N. N.
Petralia.—Canu, F., 1.
Petraroia (Italy).—Erasmo, G. d', 1.
Petraster.—Schuchert, C., 2.
Petricola.—Clark, B. L., 1.
Petrographic classification.—Cross, W., 1.
—— provinces, Switzerland.—Niggli, P., 3.
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——, Alberta.—Slipper, S. E., 2–4.
——, Argentina & Bolivia.—Longobardi, E.
——, Assam.—Jack, H. S. M.
——, British Columbia.—Arnold, R., 1.; Camsell, C., 1; Galloway, J. D., 3.
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——, California.—Anderson, R.; English, W. A., 2; Pack, R. W., 1–4; Rogers, G. S., 6.
——, Canada.—Clapp, F. G., 4; Huntley, L. G., 3; Miller, W. G., 1.
——, —— (W.). — Campbell - Johnston, R. C., 1.
——, Chile.—Felsch, J., 2.
——, Derbyshire.—Sington, T.
——, Gt. Britain.—Dalton, W. H.; Forbes-Leslie, W., 2; Illing, V. C., 3–5.
——, Illinois.—Brokaw, A. D., 2; Butts, C., 3; Hinds, H., 1; Kay, F. H., 1–5; Rich, J. L., 3 & 4; St. Clair, S., 1–3.
——, Indiana.—Bownocker, J. A.
——, Indo-China.—Durandin, P., 1.
——, Italy.—Grossi, M.
——, Japan.—Clements, J. M.
——, Kashmir.—Middlemiss, C. S., 2.
——, Kentucky.—Fohs, F. J.
——, Louisiana.—Lucas, A. F.
——, Mexico.—Aguilar, A.; Almazán, C.; Dumble, E. T., 5–7; Flores, T., 3; Hartley, B.; Palacios, E. J.; Santaella, J.
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——, Mississippi.—Hopkins, O. B., 2.
——, New Mexico.—Richardson, G. B., 1.
——, New South Wales.—Mingaye, J. C. H., 1.
——, New Zealand.—Speight, R., 3.
——, N. America.—Grabau, A. W., 8
——, Ohio.—Bownocker, J. A.; Condit, D. D., 1–3; Van Horn, F. R., 2.

Petroleum, Oklahoma.—Beal, C. H.; Buttram, F., 2; Gardner, J. H., 2; Heald, K. C.; Smith, C. D., 2.
——, Oregon.—Washburne, C. W., 1.
——, Philippine Is.—Pratt, W. E., 2, 3 & 7.
——, Portugal.—Choffat, P., 1.
——, Queensland.—Ball, L. C., 4 & 5; Cameron, W. E., 2.
——, Russia.—Adiassevich, A.; Schneider, O.
——, Scotland.—Cadell, H. M., 4; Craig, E. H. C., 2.
——, S. Africa.—Rogers, A. W., 9.
——, S. America.—Clapp, F. G., 3.
——, S. Australia.—Basedow, H., 2; Wade, A., 1; *see also* South Australia, 7 *&* 8.
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——, Tasmania.—Wade, A., 2.
——, Texas.—Fuller, M. L., 3; Gardner, J. H., 2; Wegemann, C. H., 6 & 7.
——, Turkey.—Dominian, L.
——, United States.—Arnold, R., 2–4; Gilbert, C. G., 4; Huntley, L. G., 3; Phillips, W. B., 2.
——, ——, Gulf Coast.—Matteson, W. G., 1.
——, Utah.—Lupton, C. T., 1.
——, Victoria.—Dunn, E. J., 5.
——, Washington.—Weaver, C. E., 4.
——, West Virginia.—Reger, D. B.
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——, Wyoming.—Lupton, C. T., 3.
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——, accumulation of.—Conkling, R. A.; Coste, E.; Daly, M. R., 1 & 2; Dumble, E. T., 4; Kemp, J. F., 4; Lauer, A. W.; McCoy, A. W., 1 & 2; Rogers, G. S., 4; Washburne, C. W., 4.
——, composition of.—Chavanne, G.; Mabery, C. F.; Marcusson, J.
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——, geology of.—Hager, D., 5; Lahee, F. H., 3.
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——, quality of, in relation to deformation.—Johnson, R. H., 1.
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——, retention of, by clay.—Little, H. P., 1.
——, transportation of.—Towl, F. M.
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——, practical.—Milner, H. B.
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Phacops.—Chapman, F., 5; Fuchs, A.; Gardiner, C. I., 3; Gortani, M., 3; Mitchell, J., 2; Vinassa de Regny, P., 1.
Phaëtonides.—Hede, J. E., 2.
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Phascolarctos.—Etheridge, R., *fil.*, 7.
Phasianella.—Cerulli-Irelli, S., 2; Cossmann, M., 5.
Phasianus.—Shufeldt, R. W., 2.
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Phenacite.—Graham, R. P. D., 4.
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Philhedra.—Reed, F. R. C., 3 & 4.
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—— ——, minerals.—Cox, A. J., 1; Pratt, W. E., 1–7, 10 & 11; Witt, J. C., 1; Ycasiano, F. R.; *see also* PHILIPPINE ISLANDS, 1–4.
—— ——, radioactive waters.—Heise, G. W., 7 & 8; Wright, J. R.
—— ——, water-supply.—Cox. A, J., 2; Heise, G. W., 5.
Phillips R. (Western Australia).—Farquharson, R. A., 2; McKeown, M. R.
Phillipsastræa.—Smith, S., 2.
Phillipsia.—Branson, E. B., 5; Diener, C.; Etheridge, R., *fil.*, 6; Girty, G. H., 1; Mansuy, H., 2; Mitchell, J., 1.
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Philoponites.—Cockerell, T. D. A., 14.
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Phoca.—Harlé, E., 1.
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——, Belgium.—Delecourt, J.
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——, Canada.—Adams, F. D., 6.
——, Egypt.—Cortese, E.
——, Florida.—Matson, G. C., 1.
——, Gt. Britain.—Strahan, Sir A., 14.
——, Idaho.—Richards, R. W.
——, Juan de Nova I., Madagascar.—Lacroix, A., 62; Orcel, J., 1.
——, Mexico.—Flores, T., 1.
——, Montana.—Stone, R. W.
——, Morocco (W.).—Russo, P., 6.
——, New Zealand.—Wild, L. J., 5. *See also* NEW ZEALAND, 4.
——, Queensland.—Ball, L. C., 9.
——, Rocky Mountains.—Blackwelder, E., 3.
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Phosphates, S. Africa.—Du Toit, A. L., 7; Versfeld, W., 4.
——, S. Australia.—Jack, R. Lockhart, 3.
——, S. Carolina.—Rogers, G. S., 2.
——, Tasmania.—Twelvetrees, W. H., 7.
——, Tennessee.—Barr, J. A., 1 & 2.
——, United States.—Mansfield, G. R., 4; Phalen, W. C., 3; Sellards, E. H., 3.
——, Utah.—Jones, C. C., 1.
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Phryganidenkalk, France.—Helbing, H.
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Phylactella.—Canu, F., 11.
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Phyllopoda, derivation of Lepadid Barnacles from.—Clarke, J. M., 10.
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Physa.—Cossmann, M., 1.
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Physico-chemical methods, in geological problems.—Gossner, B.
Physiographic analogies, between Scotland & Italy.—Preller, C. S. du R., 14.
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——, Italian.—Zuffardi, P., 3.
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Piave, Quartier di (Venetia).—Toniolo, A. R.
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——, Mozambique.—Holmes, A., 12.
—— -teschenite, Ayrshire.—Tyrrell, G. W., 6.
Piedmont (Italy).—Bonney, T. G., 8; Craveri, M., 1 & 2; Novarese, V., 1 & 2; Parona, C. F., 6; Preller, C. S. du R., 5–8; Rosati, A., 2.
—— (Nova Scotia).—Hayes, A. O., 3.
Piedmontite.—Balzac, F., 1.
Pierce Co. (Washington).—Daniels, J.
"Pietre Verde," Italy.—Franchi, S., 2; Preller, C. S. du R., 6.
Pig, the Irish.—Scharff, R. F., 2.
Pigeon Point (Lake Superior).—Daly, R. A., 10.
Pike Co. (Missouri).—Rowley, R. R.
Pilatus, Mt. (Switzerland).—Buxtorf, A., 6.
Pilbara goldfield (Western Australia).—Simpson, E. S., 4.
Pileolus.—Cossmann, M., 5.
Pillow-form structure, in sandstones.—Smith, Bernard, 2.
Pillow-lavas, Alaska.—Capps, S. R., 2.
——, Derbyshire.—Sargent, H. C., 3.
——, Montana.—Burling, L. D., 2.
——, New South Wales.—Benson, W. N., 2.
——, origin of.—Lewis, J. V., 1.
Piltdown skull.—Dawson, C., 1 & 2; Giuffrida-Ruggeri, V.; Miller, G. S., 1; Rutot, A., 2; Thacker, A. G.; Woodward, A. S., 15.
Pindus Mts. (Greece).—Niculescu, C., 4 & 5.
Pine Creek dist. (N. Terr., S. Australia).—Jensen, H. I., 3; Oliver, T. G.; Winters, R. J.
Pinerolo (Piedmont).—Craveri, M., 2.
Pines, Isle of (New Caledonia).—Compton, R. H.
Pinite.—Doelter, C., 2; Ichikawa, S., 2.
Pinites.—Fucini, A.
Pinitization, of rocks.—Buddington, A. F., 1.
Pinna.—Clark, B. L., 1; Dunlop, R., 2; Martin, K.; Nœrregaard, E. M., 1; Nomland, J. O., 6; Rollier, L., 2; Schneid, T.; Waring, C. A.
Pinostrobus.—Stopes, M. C., 2.
Pintados (Chile).—Brueggen, J., 3.
Pinus.—Knowlton, F. H., 4; Penhallow, D. P.; Reid, C., 6.
Piossasco (Piedmont).—Craveri, M., 2.
"Pipe-rocks."—Hœgbom, A. G., 3.
"Pipes," in coal measures, N. France.—Gosselet, J., 3.
Piracy, stream.—*See* River-piracy.
Pironastrœa.—Vaughan, T. W., 12.
Pirosclerite.—Comucci, P., 3.
Pirus.—Reid, C., 6.
Pisa, Campanile of (Italy).—Canavari, M., 2.
Pisania.—Cossmann, M., 1; Harmer, F. W., 2.
Pisanite.—Schaller, W. T., 3.
Piscerotto Alp (Switzerland).—Stauffacher, J., 1.
Pisces, Carboniferous.—Chapman, F., 21; Day, H., 1; Pruvost, P., 5; Woodward, A. S., 10.
——, Cretaceous.—Erasmo, G. d', 1; Hussakof, L., 4.
——, Devonian.—Lowe, H. J., 5; Rogers, I.; Woodward, A. S., 7 & 30.
——, Eocene.—Leriche, M., 9; Pieragnoli, L.; Stefano, G. de, 4.
——, Jurassic.—Woodward, A. S., 13, 27 & 29.
——, Liassic.—Woodward, A. S., 11.
——, Mesozoic & Tertiary.—Priem, F., 1–7.
—— Miocene.—Hussakof, L., 2; Musy, M., 2.
——, Palæozoic.—Watson, D. M. S., 11.
——, Permian.—Hussakof, L., 1.
——, Silurian.—Woodward, A. S., 17.
——, Tertiary.—Andersson, E., 1; Chapman, F., 7; Das-Gupta, H. C., 3; Gregorio, A. de, 6; Stefano, G. de, 6.
——, Triassic.—Andersson, E., 2; Bassani, F., 2; Hussakof, L., 6; Lambe, L. M., 2.
——, bibliography of.—Dean, B.
——. *See also* Fishes.
Pisidium.—Odhner, N. H., 2; Phillips, R. A.; Woodward, B. B., 2.

Pistacia.—Reid, C., 6.
Pit structures, in sedimentary rocks.—Kindle, E. M., 6.
Pitar.—Pilsbry, H. A., 3.
Pitaria.—Clark, B. L., 1 & 5; Cossmann, M., 8; Dall, W. H., 5; Dickerson, R. E., 4 & 9.
Pitcairn I. (S. Pacific).—Marshall, P., 14.
Pitchblende, Colorado.—Alsdorf, P. R.; Collins, H.
——, Cornwall.—Penrose, R. A. F. *fil.*, 1.
——, Devonshire.—Anon., 116.
——, Mexico.—Castro, C., 2.
——, extraction of radium from.—Cable, Mrs. R.
Pitchstone, Arran.—Scott, A., 5.
——, Cantal.—Lacroix, A., 41.
——, I. of Mull.—Anderson, E. M., 2.
——, xenoliths of, in basalt, Arran.—Tyrrell, G. W., 7.
Pitcullo (Fife).—Balsillie, D., 1.
Pithecanthropus.—Gregory, W. K., 5; Hrdlička, A., 1; Vallois, H. V.
Pithecolobium.—Matson, G. C., 3.
Pits, in zincblende crystals.—Ichikawa, S., 4.
Pittizite.—Doelter, C., 1.
Pittsburgh (Pennsylvania).—Kuhn, H. A.
Pityophyllum.—Mœller, H.
Pityoxylon.—Stopes, M. C., 2.
Piura R. (Peru).—Portocarrero, J. N., 1.
Pizzetti, P., *Obit.*—*See* Jadanza, N.; & Reina, V., 2.
Pizzo Valanghe (Sicily).—Gregorio, A. de, 5.
Place names, geology &.—Reusch, H., 6.
Placenticeras.—Waring, C. A.
Placer deposits.—Beyschlag, F.
—— ——, British Columbia.—Tyrrell, J. B., 11.
—— ——, California.—Alling, M. N.
Placopsilina.—Chapman, F., 18.
Placosaurus.—Depéret, C., 5.
Placotelia.—Oppliger, F.
Plagiocardium.—Newton, R. B., 1.
Plagioclase, dipyrisation of.—Lacroix, A., 31.
——, grouping of.—Calkins, F. C., 2.
——, twinning of.—Goldschlag, M.
——. *See also* Felspar.
Plagiodontia.—Miller, G. S., 2.
Plagiœcia.—Canu, F., 9.
Plagioglypta.—Branson, E. B., 3; Girty, G. H., 1.
Plagiolophus.—Depéret, C., 5.
Plagiopodopsis.—Knowlton, F. H., 4.
Plagioptychus.—Douvillé, H., 22.
Plagiosmittia.—Canu, F., 11.
Plagiostoma.—Cossmann, M., 5; Girty, G. H., 1.
Plagiozamites.—Bassler, H.
Plainview (Texas).—Merrill, G. P., 12.
Plan d'Aups (Var).—Repelin, J., 2.
Planaxis.—Cossmann, M., 1.
Planchéite.—Zambonini, F., 9.
Planera.—Knowlton, F. H., 4.
Planipennia, Triassic.—Tillyard, R. J., 2 & 6.
Planolites.—Walcott, C. D., 2.
Planorbis.—Dall, W. H., 2; Dollfus, G. F., 5; Johansen, A. C.; Roman, F., 2.
Planorbulina.—Yabe, H., 7.
Plant beds, Finland.—Ramsay, W.
—— ——, S. America. Berry, E. W., 17.
—— zones, Carboniferous.—Bertrand, P., 10.
Plantæ, Carboniferous.—Arber, E. A. N., 1; Barbour, E. H., 2; Bertrand, P., 1–10; Bureau, E.; Campbell, R., 2; Carpentier, A., 1; Gordon, W. T., 1 & 2; Kidston, R., 1, 2, 4 & 5; Renier, A., 4; Scott, D. H., 5–7 & 9; Stopes, M. C., 1; Welsch, J., 5; Wilson, W. J.
——, Cretaceous.—Berry, E. W., 3 & 4; Cockerell, T. D. A., 11; Knowlton, F. H., 3; Kryshtofovich, A., 1 & 2; Penhallow, D. P.; Stopes, M. C., 2, 4 & 6; Zeiller, C. R., 2.
——, Devonian.—Arber, E. A. N., 8; Halle, T. G., 5; Horne, J., 7 & 10; Johnson, T.; Kidston, R., 6; Kolderup, C. F., 6; Matthew, G. F., 3; Nathorst, A. G., 2; Newlands, G. 1.
——, Eocene.—Smith, W. S., 2.
——, Jurassic.—Backlund, H., 1; Knowlton, F. H., 5; Thomas, H. Hamshaw, 2 & 3; Walkom, A. B., 7.
——, Liassic.—Lozano, E. D., 1 & 2; Wieland, G. R., 1.
——, Mesozoic.—Antevs, E., 1; Benson, W. N., 10; Chapman, F., 34; Halle, T. G., 1 & 3; Knowlton, F. H., 6; Walkom, A. B., 1–7.
——, Miocene.—Chauvet, G.; Knowlton, F. H., 4; Principi, P., 2
——, Neolithic.—Gidon, F.
——, Oligocene.—Jennings, O. E.; Matson, G. C., 3.
——, Palæozoic.—Chapman, F., 33.
——, Pleistocene.—Berry, E. W., 5 & 13; Gertz, O., 1; Halle, T. G., 4; Nathorst, A. G., 7; Reid, C., 1.
——, Pliocene.—Reid, C., 6; Sangiorgi, D., 2.
——, Rhætic.—Pelourde, F., 1 & 2.
——, Tertiary.—Baumberger, E., 2; Berry, E. W., 16, 18 & 20; Chaney, R. W.; Colani, M.; Koiwai, K.; Nathorst, A. G., 1.
——, Triassic.—Wherry, E T., 10.
——. *See also* Algæ.
Plants, ancient types of.—Turrill, W. B.

Plants, distribution of, in Sardinia.—Blengino, A., 2.
——, ——, in Scandinavia.—Samuelsson, G.
——, evolution of herbaceous.—Sinnott, E. W., 2.
——, geographical distribution of.—Morris, Sir D.
——, geological history of Australian.—Andrews, E. C., 8.
——, principal groups of fossil.—Maslen, A. J.
——, use of fossil, in correlation.—Knowlton, F. H., 1.
Plaster of Paris, foreign substances in.—Troxell, E. L., 3.
Plastic flow.—Bingham, E. C.
Plasticity, of strata.—Guébhard, A., 19.
Plateau, Armenia.—Ginsberg, A. S.
——, Citta della Pieve, Italy.—Verri, A., 2.
——, Millevaches, Cent. France.—Glangeaud, P., 15.
——, South-Eastern Highlands.—Bremner, A., 6.
——, Tamlelt, Oran.—Dollé, L., 1; Rey, F.
——, volcanic, N. Atlantic.—Hawkes, L., 2.
Plateaus, British Columbia.—Reinecke, L., 1 & 5.
——, elevated, formation of.—Nordenskjœld, O., 1.
——, lava, of Clyde Basin.—Tyrrell, G. W., 9.
——, volcanic, Victoria.—Keble, R. A., 2.
Platecarpus.—Loomis, F. B., 1.
Plateosaurus.—Broom, R., 5.
Platform, submerged, of Indian Ocean.—Schwarz, E. H. L., 2.
Platinum, Canada.—O'Neill, J. J., 5.
——, Madagascar.—Lacroix, A., 61.
——, Nevada.—Knopf, A., 1.
——, Nova Scotia.—Faribault, E. R., 7.
——, Spain.—Duparc, L., 2; Earl, T. C., 1; Gillman, F.; Orueta, D. de, 3.
——, S. Rhodesia.—Zealley, A. E. V., 8.
——, United States, production.—Hill, J. M., 2.
——, Ural Mts.—Dodonoff, G. A.; Duparc, L., 2.
——, Victoria.—Howitt, A. M., 5.
——, in copper ores.—Mingaye, J. C. H., 1.
——, estimation of.—Schotte, —.
——, metals, detection of.—Bannister, C. O.
Platyceras.—Chapman, F., 6; Cobbold, E. S., 2; Fuchs, A.; Gortani, M., 3; Hede, J. E., 2; Williams, H. S., 2; Williams, M. Y., 11.
Platychonia.—Oppliger, F.
Platycrinus.—Wilson, H. E.; Wright, J., *fil.*, 2.
Platygonus.—Hay, O. P., 1; Troxell, E. L., 1.
Platymerella.—Savage, T. E., 3.
Platynus.—Wickham, H. F., 3.
Platyostoma.—Williams, H. S., 2.
Platypterna.—Lull, R. S., 3.
Platyschisma.—Trechmann, C. T., 3.
Platystega.—Wiman, C., 1.
Platystrophia.—Howell, J. V.; McEwan, E. D.; Savage, T. E., 4; Trowbridge, A. C., 3; Williams, M. Y., 11.
"Playa" gold-mining, Colombia.—Ward, W. F.
Pleasant River Barrens (Nova Scotia).—Faribault, E. R., 2.
Plecotrema.—Morgan, J. de, 3.
Plectambonites.—Howell, J. V.; Mansuy, H., 1; Reed, F. R. C., 3 & 4; Trowbridge, A. C., 3.
Plectoidothyris & *Plectothyris.*—Buckman, S. S., 4.
Plectrodus.—Woodward, A. S., 17.
Plectropterna.—Lull, R. S., 3.
Pleistocene, Arctic Regions.—Ahlmann, H. W., 5.
——, Argentina.—Castellanos, A.
——, Atlantic Coastal Plain, U.S.A.—Clark, W. B., 1.
——, Balearic Is.—Bate, D. M. A., 2.
——, Belgium.—Hallez, H., 1–3.
——, British Isles.—Bell, A., 4.
——, Burma.—Annandale, N., 1; Woodward, A. S., 6.
——, California.—Chandler, A. C., 1 & 2; Knowlton, F. H., 2; Miller, L. H., 1–3; Stock, C., 1–5.
——, Cambridge.—Marr, J. E., 4 & 6.
——, China.—Matsumoto, H., 2.
——, England.—Kennard, A. S., 1.
——, Essex.—Newton, E. T., 2.
——, Europe, Asia & N. Africa.—Osborn, H. F., 1.
——, Idaho.—Merriam, J. C., 12 & 14.
——, Illinois.—Shaw, E. W., 2; Wickham, H. F., 2.
——, Indiana & Michigan.—Leverett, F., 4.
——, Iowa.—Carman, J. E.; Hay, O. P., 1; Kay, G. F., 4 & 9; Leighton, M. M.
——, Ireland.—Praeger, R. L., 2; Phillips, R. A.; Woodward, B. B., 2.
——, Japan.—Matsumoto, H., 3 & 4.
——, Kansas.—Hay, O. P., 6 & 8.
——, Maine.—Blaney, D.; Little, H. P., 2.
——, ——, & New Hampshire.—Katz, F. J., 5.
——, Malta.—Bate, D. M. A., 1.
——, Minnesota.—Leverett, F., 2.
——, Montana.—Stebinger, E., 4.
——, Missouri.—Shaw, E. W., 2.

Pleistocene, Montreal I., Canada.—Stansfield, J. 2.
——, Morocco (W.).—Lecointre, G., 9.
——, Nevada.—Merriam, J. C., 3.
——, New Zealand.—Park, J., 7; Thomson, J. A., 11.
——, N. America.—Hay, O. P., 2.
——, N. Dakota.—Leonard, A. G., 1 & 2.
——, Ontario.—Coleman, A. P., 8; Johnston, W. A., 4 & 8.
——, Picardy.—Briquet, A.
——, Quebec.—Ardley, E., 2.
——, Rhine Valley (Lower).—Pohlig, H.
——, Savoy.—Kilian, W., 17 & 18.
——, Sutherlandshire.—Peach, B. N.
——, Switzerland.—Gerber, E., 2; Stehlin, H. G., 3.
——, Tasmania.—Benson, W. N., 8; Scott, H. H.
——, Texas.—Hay, O. P., 5; Lull, R. S., 1.
——, Vermont.—Keith, A.
——, Wisconsin.—Hussakof, L., 5.
——, Yorkshire.—Bell, A., 6 & 9.
——, Yukon Terr.—Hay, O. P., 7.
——, climatic oscillations in.—Reeds, C. A., 1.
——, human types in.—Gregorio, A. de, 2.
——. *See also* Quaternary, &c.
Pleistocene deposits, mapping of.—Kilian, W., 5.
—— ——, relative ages of.—Hay, O. P., 9.
—— man.—*See Homo.*
—— movements.—Barrell, J., 2.
—— uplift, New York.—Fairchild, H. L., 2.
Plentywood (Montana).—Bauer, C. M., 1.
Pleochroic haloes.—Joly, J., 1–4.
Pleochroism, in tin-bearing mineral, Siam.—Scrivenor, J. B., 6.
Pleonaste.—Cesàro, G., 10.
Plesiadapis.—Stehlin, H. G., 2.
Plesiastrœa.—Gregory, J. W., 39.
Plesictis.—Helbing, H.
Plesiechinus.—Hawkins, H. L., 2 & 5.
Plesiornis.—Lull, R. S., 3.
Plesiosauria, Cretaceous.—Williston, S. W., 9.
——, Jurassic.—Smellie, W. R., 1.
——, Liassic.—Brandes, T.
——, Triassic.—Wiman, C., 4.
——, the name.—Boulenger, G. A., 2.
Plesioteuthis.—Crick, G. C., 2.
Plethomytilus.—Kegel, W.
Pleurocera.—Annandale, N., 1.
Pleurodesma.—Cossmann, M., 8.
Pleurodictyum.—Fuchs, A.
Pleurodonte.—Cockerell, T. D. A., 5; Dall, W. H., 2.
Pleuromya.—Greco, B., 4; Krenkel, E.; Mansuy, H., 1.
Pleuronotus.—Tolmatcheff, I. P.
Pleurophorus.—Branson, E. B., 3; Diener, C.; Trechmann, C. T., 2.
Pleurotoma.—Bell, A., 5; Chapman, F., 16; Cipolla, F.; Cossmann, M., 1; Harmer, F. W., 2; Martin, K.; Nœrregaard, E. M., 1.
Pleurotomaria.—Chapman, F., 6; Cossmann, M., 5; Dunlop, R., 2; Fuchs, A.; Girty, G. H., 2; Kegel, W.; Krenkel E.; Mansuy, H., 1; Onetti, A.; Rollier, L., 5; Trechmann, C. T., 2 & 3.
Pleurotomidæ, Pliocene.—Cipolla, F.
Pliauchenia.—Merriam, J. C., 6, 7 & 15.
Plicatula.—Cossmann, M., 7; Douvillé, H., 22; Fourtau, R., 4; Greco, B., 4.
Pliciscala.—Cossmann, M., 1.
Pliocene, Belgium.—Depéret, C., 4.
——(?), British East Africa.—Andrews, C. W., 6.
——, California.—Martin, B.; Merriam, J. C., 5 & 8; Moody, C. L., 1; Nomland, J. O., 2, 3 & 5; Rathbun, M. J., 3.
——, China.—Matsumoto, H., 1.
——, England (S.E.).—Abbott, W. J. L., 2.
——, Gt. Britain.—Harmer, F. W., 2.
——, France.—Dollfus, G. F., 17; Glangeaud, P., 2 & 4; Welsch, J., 1.
——, Holland.—Reid, C., 6.
——, Italy.—Campana, D. del, 2 & 4–6; Cerulli-Irelli, S., 1 & 2; Gignoux, M., 1; Meli, R., 1; Patrini, P., 4 & 5; Sacco, F., 1.
——, Lombardy.—Taramelli, T., 2 & 3.
——, Maritime Alps.—Maury, E., 1.
——, Nebraska.—Sinclair, W. J., 2.
——, Nevada.—Butterworth, E. M.
——, N. America.—Merriam, J. C., 11; Osborn, H. F., 10.
——, Oregon.—Merriam, J. C., 16.
——, Roumania.—Manolescu, S.
——, San Marino.—Nelli, B., 2.
——, Sicily.—Checchia-Rispoli, G., 9 & 10; Cipolla, F.; Gregorio, A. de, 6.
——, Umbria.—Ossat, G. de A. d', 2.
——, United States.—Wieland, G. R., 2.
——, Victoria.—Chapman, F., 31.
—— man.—*See Homo.*
Pliohippus.—Merriam, J. C., 5, 6, 8 & 15; Osborn, H. F., 10; Troxell, E. L., 4.
Pliolepidina.—Douvillé, H., 8.
Pliomera.—Reed, F. R. C., 3.
Pliopithecus.—Gregory, W. K., 5.
Plioplarchus.—Eastman, C. R., 2.
Plumasite, Natal.—Du Toit, A. L., 9.
Plumb-line, deflection of the.—Neill, W. T.
Plumbojarosite.—Knopf, A., 3.

Plumstead (Kent).—Baker, H. A., 7; Priest, S., 4.
Plumulites.—Withers, T. H., 2.
Plutonic rocks.—Evans, J. W., 8.
Plymouth (Devonshire).—Worth, R. H., 2.
—— oilfield (Illinois).—Blatchley, R. S., 2.
Po Basin (Italy).—Patrini, P., 5; Roccati, A., 3 & 4; Stella, A.; Vinassa de Regny, P., 2.
Poacordaites.—Stopes, M. C., 1.
Pocillopora.—Vaughan, T. W., 12.
"Pocket" deposits, California.—Ferguson, H. G., 2.
Podabrus.—Wickham, H. F., 3.
Podenzano (Italy).—Patrini, P., 4.
Podocarpoxylon.—Sinnott, E. W., 3; Stopes, M. C., 2.
Podocnemis.—Fourtau, R., 5.
Podokesaurus.—Lull, R. S., 3.
Podoli (Moravia).—Schirmeisen, K.
Podolite.—Doelter, C., 1.
Podozamites.—Halle, T. G., 1; Lozano, E. D., 1; Pelourde, F., 2; Walkom, A. B., 5; Wieland, G. R., 1.
Poëbrotherium.—Troxell, E. L., 6.
Poederlian, Belgium.—Depéret, C., 4.
Poëphagus.—Matsumoto, H., 8.
Poikilosakos.—Watson, D. M. S., 6.
Point Hibbs (Tasmania).—Hills, L., 1.
Poitevin (France).—Welsch, J., 3 & 4.
Pola (Austria).—Chapman, S., 1.
Poland.—Gurney, A. E.
——, Little.—Lencewicz, S.
—— (Maine).—Drugman, J.
Polar climates.—Deeley, R. M., 1.
Polarisation, circular, produced by spherulites.—Gaubert, P., 4.
——, of sunlight.—Smith, W. S. T.
Polariser, correct position of the.—Wright, F. E., 5.
Pole, movements of the.—Barrell, J. 1; Hills, E. H.
——, path of the magnetic.—Belot, E., 8.
Polemarchus.—Lull, R. S., 3.
Polesden Valley (Surrey).—Young, G. W., 3.
Poleumita.—Parks, W. A., 2; Savage, T. E., 4.
Pollen, transport of, by winds.—Hesselman, H., 2.
Pollex, absence of the, in Perissodactyla.—Matthew, W. D., 7.
Pollicipes.—Withers, T. H., 3.
Pollington (Yorkshire).—Gibson, W., 1.
Pollucite.—Doelter, C., 2.
Polyamma.—Etheridge, R., *fil.*, 6.
Polycephalopora.—Lang, W. D., 11.
Polyconites.—Douvillé, H., 1.
Polygonum.—Reid, C., 6.
Polygyra.—Dall, W. H., 2; Cockerell, T. D. A., 1.
Polyhalite.—Gœrgey, Baron R. von.
Polyhedra, symmetry of.—Cesàro, G., 4; Fedorov, E. S.
Polymastodon.—Broom, R., 2.
Polymorphina.—Chapman, F., 18.
Polymorphism.—Niggli, P., 1.
Polymorphites.—Trueman, A. E., 4.
Polynices.—Dall, W. H., 2; Marshall, P., 8; Waring, C. A.
Polyphemopsis.—Mansuy, H., 1 & 2.
Polyplacophora, Tasmania.—Hull, A. F. B.
Polypodium.—Antevs, E., 2.
Polypora.—Williams, H. S., 2.
Polypterus.—Gregory, W. K., 1.
Polyrhizodus.—Eastman, C. R., 2.
Polyschema.—Oppliger, F.
Polysemia.—Erasmo, G. d', 1.
Polystomella.—Chapman, F., 16; Cushman, J. A., 1.
Polytrichum.—Knowlton, F. H., 4.
Polyzoa, Cretaceous.—Brydone, R. M., 2, 3 & 5; Lang, W. D., 1, 2, 5, 8 & 9; Lecointre, G., 1.
——, Ordovician.—Bekker, H.
——, Palæozoic.—Etheridge, R., *fil.*, 6.
——, Tertiary.—Canu, F., 1–5 & 10–13; Faura, M.
——, Bibliography.—Canu, F., 6 & 7.
——, classification.—Canu, F., 10 & 12.
——, evolution.—Lang, W. D., 3.
——, genotypes of.—Lang, W. D., 4.
——, morphology.—Canu, F., 8 & 9.
Pomègues I. (Marseilles).—Repelin, J., 7.
Pomeroon dist. (Brit. Guiana).—*See* BRITISH GUIANA, 12.
Pommerats, Les (Switzerland).—Schuh, F.
Ponder's End Stage, Lea Valley.—Warren, S. H., 2.
Ponera.—Cockerell, T. D. A., 14.
Ponite, Roumania.—Butureanu, V. C.
Pont-de-Briques (Pas-de-Calais).—Pagniez, —, 6.
Pont-Lévêque (Oise Valley).—Commont, V., 2.
PONTE, G. M. da, *Biogr.*—*See* Taramelli, T., 9.
Pontiac Co. (Quebec).—Keele, J., 6.
Pontian, Macedonia.—Nelli, B., 1.
——, Roumania. — Ionescu-Argetoaia, I. P.
Pontypridd (Glamorgan).—Strahan, Sir A., 15.
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Popanoceras.—Diener, C.
Popilani (Russia).—Krenkel, E.
Poposaurus.—Mehl, M. G., 2.
Populus.—Gertz, O., 1; Knowlton, F. H., 4; Kryshtofovich, A., 2; Nordmann, V., 1; Sangiorgi, D., 2.
Porambonites.—Reed, F. R. C., 4.
Porana.—Baumberger, E., 2; Knowlton, F. H., 4.
Porcellana.—Isberg, O., 2.
Porcellanites.—Rieke, R.

Porcupine (Ontario).—Tyrrell, J. B., 4; Watson, J. C.
—— Hills (Alberta).—Stewart, J. S., 1.
—— River (Alaska).—Cairnes, D. D., 2.
Porella.—Canu, F., 1 & 5; Faura, M.
Poricella.—Faura, M.
Porifera, Jurassic.—Oppliger, F.
——, Miocene-Recent, boring.—Principi, P., 3.
——, Ordovician.—Etheridge, R., *fil.*, 4.
——, primitive forms of.—Douvillé, H., 4.
Porina.—Lecointre, G., 1.
Porites.—Gregory, J. W., 39; Vaughan, T. W., 12; Yabe, H., 7.
Porjus (Lappland).—Geijer, P., 13.
Porocidaris.—Lambert, J., 6.
Porocrinus.—Hudson, G. H., 1.
Poromya.—Anderson, F. M.
Poronchile (Chile).—Felsch, J., 3.
Porphyrite, Finland.—Mækinen, E., 3.
Porphyry, Egypt.—Schneider, O.
——, erratics of, Finland.—Hausen, H., 1.
——, magnetite-syenite.—Geijer, P., 4.
Port Curtis (Queensland).—Ball, L. C., 4.
Port Elmsley (Ontario).—Wilson, M. E., 8.
Port Gueydon (Algeria).—Flamand, G. B. M.
Port Haney (B.C.).—Galloway, J. D., 3.
Port Mouton dist. (Nova Scotia).—Faribault, E. R., 1.
Port Phillip (Victoria).—Keble, R. A., 2.
Port Shepstone (Natal).—Wybergh, W.
Port Townsend (Washington).—Rathbun, M. J., 1.
Porthcurno (Cornwall).—Marsden, J. G., 1 & 2.
Portlandian, France.—Charpiat, R., 3; Dehorne, Y., 3.
Porto (Portugal).—Fontes, J., 2.
Porto-de-Moz (Portugal).—Fleury, E., 1; Lambert, J., 2.
Porto Rico (W. Indies).—Allen, J. A.; Anthony, H. E., 3 & 4; Berkey, C. P.; Matthew, W. D., 2; Maury, C. J., 3; Mitchell, G. J., 2; Reeds, C. A., 3; Vaughan, T. W., 12.
Portsmouth (Hampshire).—Thomson, D. H.; White, H. J. O., 1.
Portugal.—Choffat, P., 1, 3, 4 & 6; Fleury, E., 1–6; Lambert, J., 2; Pruvost, P., 4; Roman, F., 2; Sousa, F. L. P. de, 7 & 8.
——, Bibliography.—Choffat, P., 2 & 7–9.
——, earthquakes.—Sousa, P. de, 1–4 & 6.
Portugal, Geological Survey.—Choffat, P., 5.
——, uranium ores.—Pereira-Forjaz, A.; Youd, H.
——. *See also* Iberian Peninsula, &c.
Portuguese East Africa.—Thiele, E. O., 1 & 2; *see also* Mozambique.
Posidonomya.—Dunlop, R., 2.
—— beds, Spitsbergen.—Wiman, C., 3.
—— ——, Sweden.—Hede, J. E., 1.
Post-Carboniferous coal, Switzerland.—Wehrli, L.
Post-Cretaceous, Wyoming.—Blackwelder, E., 4.
Post-Eocene, Washington.—Weaver, C. E., 2, 3 & 5.
Post-glacial climates.—Frœdin, G., 9; Hœgbom, A. G., 6.
—— deposits, Finland.—Ramsay, W.
—— ——, Massachusetts.—Shimer, H. W., 1.
—— ——, Sweden.—Antevs, E., 8; Bodman, G.; Gustafsson, J. P.; Odhner, N. H., 1; Sandegren, R., 3.
—— earth movements, Dauphiné.—Gorceix, C., 3.
—— elevation, N.-E. America.—Fairchild, H. L., 4 & 5.
—— erosion, Sweden.—Frœdin, G., 8.
—— levels, Lough Neagh.—Stellfox, A. W.; Wright, W. B., 2.
—— marls, Illinois.—Baker, F. C.
—— period, Denmark.—Nordmann, V., 1.
—— ——, Sweden.—Horne, J., 6.
—— river-changes, Fier Valley.—Gorceix, C., 1.
—— submergence, Long Island.—Fairchild, H. L., 3.
—— time, measurement of.—Hotchkiss, W. G.
Post-Jurassic geography, Australia.—Andrews, E. C., 4.
Post-Nummulitic thrusts, Asturias.—Termier, P., 9.
Post-Pleistocene, Maine.—Little, H. P., 2.
—— movements.—Barrell, J., 2.
Post-Pliocene, Ireland.—Kennard, A. S., 2; Taylor, J. W.
——, Sicily.—Gregorio, A. de, 4 & 5.
Post-Würmian glaciers, Piedmont.—Novarese, V., 2.
Potamides.—Clark, B. L., 5; Cossmann, M., 1; Dainelli, G.; Dall, W. H., 2; Harmer, F. W., 2; Martin, K.; Pilsbry, H. A., 3.
Potamis.—Dainelli, G.
Potamogeton.—Reid, C., 6; Welsch, J., 1.
Potash, from felspar.—Jesser, L.; Quinney, E. H.
——, in gold & copper ores.—Butler, B. S., 1.
——, from leucitic lavas.—Washington, H. S., 10.

Potash, recovery of, in cement works.—Wilson, A. W. G.
——, in soils.—André, G.; Hilgard, E. W., 1.
——, sources of.—Cameron, F. K.; Holmes, A., 16; Macdowell, C. H.; Thorpe, T. E.
Potash brines, evaporation of.—Hicks, W. B., 2.
—— -felspar deposits, Gt. Britain.—Strahan, Sir A., 14.
—— salt industry.—Martin, G.
—— salts, Catalonia.—Rubio, C.
—— ——, Chile.—Brueggen, J., 3.
—— ——, Erythrea.—Giua, M.
—— ——, India.—Stuart, M., 2.
—— ——, New Jersey.—*See* NEW JERSEY, 1.
—— ——, Saskatchewan.—Dowling, D. B., 15.
—— ——, Sicily.—Gregorio, A. de, 5.
—— ——, Spain.—Heriot, E. M.
—— ——, Texas.—Phillips, W. B., 2; Udden, J. A., 4.
—— ——, Western Australia.—Simpson, E. S., 5.
—— ——, occurrence of.—Gregory, J. W., 27.
Potassium, estimation of, in soils.—Aston, B. C.
——, in igneous rocks.—Washington, H. S., 4.
"Potato stones," Norway.—Reusch, H., 4.
Potentilla.—Welsch, J., 1.
Poterioceras.—Parks, W. A., 2; Stauffer, C. R., 5; Williams, M. Y., 11.
Poteriocrinus.—Wright, J., *fil.*, 2.
Potgietersrust (Transvaal).—Young, R. B., 2.
Pot-holes, Aberdeenshire.—Bremner, A., 3.
——, Egypt.—Dacqué, E.
——, Finland.—Kurki, M. V.
——, New Hampshire.—Goldthwait, J. W., 4.
——, formation of.—Svenonius, F., 6.
Potomac Formation.—Sinnott, E. W., 3.
Potoniea.—Bertrand, P., 1.
Potsdam (Prussia).—Meissner, O., 2.
Potter's Bar (Middlesex).—Barrow, G., 2.
Pottery, prehistoric, magnetic properties of.—Mercanton, P. L., 4.
Potton Township (Quebec).—Harvie, R., 1.
Pottsville Formation, Arkansas & Oklahoma.—Mather, K. F., 1.
Pound Quadrangle (Virginia).—Butts, C., 1.
Poupet, Mt. (Jura).—Bourgeat, l'Abbé, 4.
Pouzol-Servant (Auvergne).—Garde, G., 2.
Powder Mill Creek (Tennessee).—Prior, G. T., 3.
Powell Mt. (Virginia).—Campbell, M. R., 1.
Powlett Plains (Victoria).—Kitson, A. E., 2.
Pozzuolana, Philippine Is.—King, A. E. W.
Prasinite.—Lincio, G., 3.
Prasopora.—Cumings, E. R., 2; Howell, J. V.; Vinassa de Regny, P., 1 & 3.
Prattia.—Faura, M.
Pravitoceras.—Yabe, H., 2.
Pre-Alps, Lombardy.—Mariani, E., 2.
——, Switzerland.—Lugeon, M., 2 & 6; Sarasin, C., 1 & 7.
Pre-Apennines, Italy.—Verri, A., 2.
Preavicula.—Williams, H. S., 2.
Pre-Cambrian, Adirondacks.—Alling, H. L., 2.
——, Canada.—Kindle, E. M., 15; Tyrrell, J. B., 5; Wilson, M. E., 7.
——, Finland.—Wilkman, W. W., 2.
——, Montana.—Walcott, C. D., 4.
——, Mozambique.—Holmes, A., 14.
——, New York.—Martin, J. C.; Miller, W. J., 3.
——, Newfoundland. — Buddington, A. F., 2.
——, N. America.—Lawson, A. C., 2; Steidtmann, E., 1.
——, Ontario.—Coleman, A. P., 1; Miller, W. G., 3 & 4.
——, Pennsylvania.—Jonas, A. I.; Wherry, E. T., 12.
——, Portugal.—Souza-Brandão, V., 2.
——, Quebec (N.).—Cooke, H. C., 7.
——, Scandinavia.—Backlund, H., 6; Gavelin, A., 4 & 5; Holmquist, P. J., 6; Quensel, P., 5 & 6.
——, S. Dakota.—Paige, S., 1 & 2.
——, Wyoming.—Blackwelder, E., 9.
—— algal deposits.—Twenhofel, W. H., 8; Walcott, C. D., 2.
—— climates.—Coleman, A. P., 5.
—— correlation.—Lane, A. C., 5.
—— nomenclature.—Lane, A. C., 2; Schuchert, C., 6.
—— organic remains.—Walcott, C. D., 11.
—— palæogeography. —Ruedemann, R., 3.
——. *See also* Algonkian, &c.
Precipitation, of ore-forming compounds.—Wells, R. C., 1.
Pre-glacial platform, Spitsbergen.—Peach, A. M.
—— valleys, Minnesota.—Soper, E. K., 1.
Prehistoric archæology, Belgium.—Fraipont, C., 4.
—— civilisation, Iberian Peninsula.—Aguiló, J. C., 1 & 2.
—— climates.—Pettersson, O.

Prehistoric distribution of land & sea, Malay Archipelago.—Van Es, L. J. C., *fil.*, 3.
—— man, Manchuria.—Torii, R.
—— period, left & right-handedness in the.—Sarasin, P., 2.
—— pottery, magnetic properties of.—Mercanton, P. L., 4.
—— problems, in Geology.—Smith, R. A., 1.
Pre-history, study of, in Essex.—Warren, S. H., 5.
Prehnite.—Flink, G., 4; Quercigh, E., 4.
——, analysis of.—Van der Riet, B. de St. J., 1.
Pre-Jatulian Slates, Finland.—Berghell, H., 1.
Pre-Keweenawan formations, Michigan.—Allen, R. C.
Premier Downs (Western Australia).—Simpson, E. S., 6.
Prenaster.—Lambert, J., 3.
Pre-Palæolithic implements, Suffolk.—Moir, J. R., 10.
Preptoceras.—Troxell, E. L., 2.
Pre-Quaternary, Somme-Oise Valley.—Commont, V., 5.
Presles, Forest of (Belgium).—Lassine, A., 3.
Pressure, crystal growth &.—Taber, S., 1 & 4.
——, deformation of quartz by.—Musy, M., 4.
——, experimental work on.—Johnston, J., 3.
——, in formation of rocks & minerals.—Johnston, J., 2.
——, of gaseous bubbles in glacier ice.—Mercanton, P. L., 5.
——, structures developed in rocks by.—Stainier, X., 1.
——, in tunnels.—Loewinson-Lessing, F., 6.
Pressure-temperature curves.—Morey, G. W., 4.
Pressures, solubility & fusion under high.—Morey, G. W., 2.
Presteign (Radnorshire).—Cantrill, T. C., 3 & 4; Watts, W. W., 3.
Pre-Stephanian thrusts, Asturias.—Termier, P., 9.
Prestwich (Lancashire).—Rhodes, J. E. W., 2.
Prestwichia.—Bolton, H., 1.
Pre-Thanetian erosion.—Baker, H. A., 4; Bromehead, C. N., 1.
PRETYMAN, F. R., *Obit.*—*See* Harker, A., 6.
Pre-volcanic valleys, Auvergne.—Glangeaud, P., 6.
Pre-Wisconsin drift, N. Dakota.—Leonard, A. G., 2.
Pre-Yünnanese folding, Indo-China.—Deprat, J., 11 & 15.
Priabonian, Macedonia.—Bourcart, J.
Pribilof Is. (Alaska).—Hanna, G. D.
Příbram (Bohemia).—Hecker, O., 3.
PRIEM, F., *Obit.*—*See* Woodward, A. S., 31.
Prieska dist. (S. Africa).—Frood, G. E. B.
Primates, Eocene.—Granger, W., 4; Matthew, W. D., 14.
——, Siwalik.—Pilgrim, G. E., 4 & 5.
——, evolution of the.—Gregory, W. K., 5.
Primitia.—Hede, J. E., 3.
Primitive rocks, folding & metamorphism in.—Sederholm, J. J., 6.
Primnoa.—Nielsen, K. B., 4 & 5.
Prince Albert Mine (S. Australia).—Connor, J. D.
Prince Charles Foreland (Spitsbergen).—Craig, R. M.; Peach, A. M.
Prince William Sound (Alaska).—Capps, S. R., 2; Johnson, B. L.
Prionorhynchia.—Buckman, S. S., 4.
Priscacara.—Eastman, C. R., 2.
Prismatic structure, in igneous rocks.—Sosman, R. B., 2.
Pristerodon.—Broom, R., 7.
Pristerognathus.—Broom, R., 4.
Pristiophorus.—Chapman, F., 7.
Pristis.—Chapman, F., 7; Fourtau, R., 5; Woodward, A. S., 28.
Proacirsa.—Cossmann, M., 5.
Proboscidea, Tertiary.—Pavlow, M., 2.
——, ligamentum teres in the.—Barbour, E. H., 4.
Proboscina.—Canu, F., 4.
Proboselaphus.—Matsumoto, H., 1.
Procamelus.—Merriam, J. C., 6, 7 & 15.
Procassidulid, presence of fasciole in a.—Lambert, J., 5.
Procerithiopsis.—Mansuy, H., 2.
Procerithium.—Cossmann, M., 5.
Procladiscites.—Mansuy, H., 1.
Productella.—Girty, G. H., 2–4; Tolmatcheff, I. P.; Weller, S., 1.
Productus.—Bolton, H., 1; Delépine, G., 1; Diener, C.; Dunlop, R., 2; Etheridge, R., *fil.*, 1; Garwood, E. J., 1; Girty, G. H., 1 & 2; Grœnwall, K. A., 6; Jackson, J. W., 5 & 6; Macnair, P., 4; Mansuy, H., 2; Molengraaff, G. A. F., 4; Stefani, C. de, 4; Stoyanow, A.; Vaughan, A., 1; Weller, S., 1.
—— Limestone, Indo-China.—Mansuy, H., 2.
Proetus.—Chapman, F., 5; Gardiner, C. I., 3; Gortani, M., 3; Hede, J. E., 3; Mansuy, H., 4; Savage, T. E., 4; Tolmatcheff, I. P.
Profiles, desert.—Lawson, A. C., 1.
Prohylobates.—Fourtau, R., 5.
Projection, gnomonic.—Smith, G. F. H., 3.
—— plot.—Wright, F. E., 11.
Prolecanites.—Pruvost, P., 4.
Prolimnocyon.—Matthew, W. D., 11.
Prolystrosaurus.—Haughton, S. H., 3.

Promontory dist. (Utah).—Butler, B. S., 6.
Promopalæaster.—Schuchert, C., 2; Spencer, W. K., 1.
Pronomotherium.—Sinclair, W. J., 2.
Pronorites.—Girty, G. H., 1.
Propalæomeryx.—Pilgrim, G. E., 3.
Propalæotherium.—Depéret, C., 2.
Propithecus & *Propliopithecus.*—Gregory, W. K., 5.
Proplanulites.—Krenkel, E.
Propterus.—Erasmo, G. d', 1.
Prosaurolophus.—Brown, B., 5.
Proserpinaca.—Reid, C., 6; Welsch, J., 1.
Prosocœlus.—Fuchs, A.
Prosopon.—Etheridge, R., *fil.*, 6.
Prososthenia.—Annandale, N., 1.
Prospatangus.—Lambert, J., 3.
Prosser, C. S., *Obit.*—*See* Clarke, J. M., 7; & Cumings, E. R., 1.
Prosthennops.—Merriam, J. C., 6 & 15.
Protarthraster.—Spencer, W. K., 2.
Prothyris.—Kegel, W.
Protichnites.—Burling, L. D., 4.
Protistograptus.—McLearn, F. H., 1.
Protobalanus.—Withers, T. H., 2.
Protoberis.—Cockerell, T. D. A., 14.
Protoboysia.—Cockerell, T. D. A., 3.
Protocardium.—Krenkel, E.; Marshall, P., 8.
Protocedroxylon.—Negri, G., 1.
Protocrysina.—Vinassa de Regny, P., 3.
Protocuneus.—Cockerell, T. D. A., 14.
Protocycloceras.—Girty, G. H., 1.
Protodonata, Triassic.—Tillyard, R. J., 4.
Protoëchinus.—Bather, F. A., 13.
Protoficus.—Smith, W. S., 2.
Protofœnus.—Cockerell, T. D. A., 8.
Protogine, Mont Blanc.—Douvillé, H., 33.
Protohippus.—Merriam, J. C., 5, 7, 9 & 15; Osborn, H. F., 10.
Protolabis.—Sinclair, W. J., 2.
Protolomatia.—Cockerell, T. D. A., 19.
Protomecoptera, Triassic.—Tillyard, R. J., 2.
Protomya.—Mansuy, H., 1.
Protophyllocladus. — Kryshtofovich, A., 2.
Protopiceoxylon.—Stopes, M. C., 2.
Protopsychopsis.—Tillyard, R. J., 2.
Protoretepora.—Diener, C.
Protorhyncha.—Reed, F. R. C., 4.
Protoschizodus.—Bolton, H., 1.
Protoscinis.—Cockerell, T. D. A., 20.
Protosphere, the.—Guébhard, A., 25.
Protospinax.—Woodward, A. S., 29.
Protostylus.—Mansuy, H., 1.
Protozeuga.—Savage, T. E., 4; Twenhofel, W. H., 1.
Protozyga.—Reed, F. R. C., 4.
Protractor, geological.—Wentworth, C. K.; Wright, F. E., 7.
Protragelaphus.—Pavlow, M., 1.
Proustite.—Parsons, A. L., 2.
Prout Limestone, Ohio.—Grabau, A. W., 7.
Provence (France).—Haug, E., 1–3; Guébhard, A., 16; Kilian, W., 7 & 8; Lambert, J., 6; Repelin, J., 1–4, 6, 7, 9 & 12.
Proverruca.—Withers, T. H., 1.
Providence (Rhode I).—Perkins, P. B.
Provo R. (Utah).—Anderson, G. E.
Prunus.—Reid, C., 6.
Psammechinus. — Checchia-Rispoli, G., 9 & 10; Clark, W. B., 3.
Psammobia.—Cossmann, M., 8; Dall, W. H., 5; Dickerson, R. E., 9; Waring, C. A.
Psammoceras.—Meunier, S., 23.
Psammocola.—Cossmann, M., 1.
Psammodus, *Psammosteus.*—Eastman, C. R., 2.
Psammosphœra.—Benson, W. N., 6; Chapman, F., 26.
Psephechinus.—Lambert, J., 2.
Psephodus.—Eastman, C. R., 2.
Pseudœlurus.—Merriam, J. C., 15; Sinclair, W. J., 2.
Pseudamusium.—Dunlop, R., 2.
Pseudastacus.—Erasmo, G. d', 1.
Pseudobrookite.—Lacroix, A., 64.
Pseudocaninia.—Yakovlev, N. N.
Pseudocassis.—Bell, A., 5.
Pseudocrania.—Reed, F. R. C., 4.
Pseudoctenis.—Walkom, A. B., 3.
Pseudocycas.—Halle, T. G., 3.
Pseudodiadema.—Clark, W. B., 3.
Pseudo-glaciation, Dalmatia.—Gregory, J. W., 3.
Pseudoglossothyris.—Buckman, S. S., 4.
Pseudolepton.—Cossmann, M., 8.
Pseudolioceras.—Fossa-Mancini, E., 5.
Pseudoliva.—Dainelli, G.; Dickerson, R. E., 4 & 5; Waring, C. A.
Pseudoloris.—Stehlin, H. G., 2.
Pseudomelania.—Cossmann, M., 5; Onetti, A.
Pseudomonotis.—Diener, C.; Girty, G. H., 1; Krenkel, E.; Mansuy, H., 1; Martin, G. C., 1; Rollier, L., 2; Spitz, A., 1; Trechmann, C. T., 2.
Pseudomorphs.—Ichikawa, S., 2; Lacroix, A., 7, 9 & 11; Rogers, A. F., 10; Van der Lingen, J. S.; Zambonini, F., 8.
Pseudonepheline.—Doelter, C., 2.
Pseudoperissolax.—Clark, B. L., 5.
Pseudoplacunopsis.—Trechmann, C. T., 2.
Pseudorhinolophus.—Revilliod, P., 2.
Pseudorthoceras.—Girty, G. H., 1 & 5.
Pseudostege.—Brydone, R. M., 5.
Pseudosyrinx.—Weller, S., 1.
Pseudotachylite, S. Africa.—Shand, S. J., 3.
Pseudotaphrus.—Cossmann, M., 1.
Pseudotectus.—Williams, H. S., 2.

Pseudotelephorus.—Cockerell, T. D. A., 14.
Pseudotissotia.—Greco, B., 2; Luethy, J.
Pseudotridymite.—Billows, E.
Pseudovirgatites.—Schneid, T.
Psilocephala.—Cockerell, T. D. A., 19.
Psiloceras.—Swinnerton, H. H., 4.
Psilomelanite.—Wherry, E. T., 9.
Psilophyton.—Bertrand, P., 2; Halle, T. G., 5; Kolderup, C. F., 6; Nathorst, A. G., 2; Stopes, M. C., 1; Wiman, C., 11.
Psioidea.—Thomson, J. A., 17.
Psychoda.—Cockerell, T. D. A., 14.
Psygmophyllum.—Kolderup, C. F., 6; Nathorst, A. G., 2.
Psylla.—Cockerell, T. D. A., 14.
Psyllipsocus.—Cockerell, T. D. A., 9.
Psyllites.—Cockerell, T. D. A., 4.
Pteridospermeæ, Devonian.—Johnson, T.
Pterinea.—Fuchs, A.; Hede, J. E., 2; Kegel, W.; Mansuy, H., 4; Savage, T. E., 4; Spriestersbach, J.; Williams, M. Y., 11.
Pteris.—Kryshtofovich, A., 2; Smith, W. S., 2.
Pterispermostrobus.—Stopes, M. C., 1.
Pterocardia.—Cossmann, M., 5.
Pterocarya.—Baumberger, E., 2; Reid, C., 6.
Pterodonta.—Greco, B., 3.
Pteronitella.—Gardiner, C. I., 3; Williams, H. S., 2.
Pteronites.—Mansuy, H., 1.
Pteroperna.—Krenkel, E.
Pterophyllum.—Knowlton, F. H., 5; Lozano, E. D., 1; Pelourde, F., 2; Walkom, A. B., 3 & 4; Wieland, G. R., 1.
Pterospermites.—Smith, W. S., 2.
Pterostichites.—Horwood, A. R., 1.
Pterostichus.—Mjœberg, E.
Pterozamites.—Wieland, G. R., 1.
Pterygometopus.—Slocom, A. W.
Pterygotus.—Hede, J. E., 2.
Ptilodictya.—Hede, J. E., 3.
Ptilodus.—Broom, R., 2.
Ptilophyllum.—Antevs, E., 1; Halle, T. G., 1; Lozano, E. D., 1; Walkom, A. B., 3–5; Wieland, G. R., 1.
Ptilozamites.—Antevs, E., 4.
Ptychaspis.—Mansuy, H., 3.
Ptychcrinus.—Savage, T. E., 4.
Ptychodus.—Canavari, M., 3; Tolmatcheff, I. P.
Ptycholepis.—Andersson, E., 2.
Ptychoparia.—Mansuy, H., 3; Walcott, C. D., 7–9.
Ptychophyllum.—Mansuy, H., 4; Williams, M. Y., 11.
Ptychopotamides.—Newton, R. B., 1.
Ptychoris.—Greco, B., 3.
Ptychospira.—Weller, S., 1.
Ptyctorhynchia & *Ptyctothyris.*—Buckman, S. S., 4.
Puebla, State (Mexico).—Reynoso, F., 1.
Pueblito (Mexico).—Paredes, T., 1.
Puerto de Nieto (Mexico).—Galvez, V., 6.
"Puff" cones, Mt. Usu, Japan.—Ôinouye, Y., 1.
Puffinus.—Shufeldt, R. W., 2.
Pugnax.—Girty, G. H., 1; Weller, S., 1.
Pugnellus.—Marshall, P., 6; Trechmann, C. T., 5; Waring, C. A.
Pugnoides.—Branson, E. B., 5; Weller, S., 1.
Pulo Laut (E. Indies).—Rutten, L., 1.
Pulo We (E. Indies).—Zwierzycki, J., 2.
Pulvinulina.—Benson, W. N., 6; Chapman, F., 13, 16, 18 & 26; Cushman, J. A., 1.
Pumice, Krakatoa.—Jongh, A. C. de.
Punctation, of *Terebratula.*—Percival, F. G., 1.
Punjab (India).—Christie, W. A. K.; Pinfold, E. S., 1; Pilgrim, G. E., 4; Stuart, M., 2 & 3; Warth, H., 2.
Pupoides.—Dall, W. H., 2.
Purbeck, I. of (Dorset).—Strahan, Sir A., 7.
—— beds.—Reid, C., 5; Woodward, A. S., 13 & 27.
PURDUE, A. H., *Obit.*—*See* Ashley, G. H., 3.
Purpura.—Dall, W. H., 2; Harmer, F. W., 2; Nomland, J. O., 2, 5 & 6.
Purpurina.—Krenkel, E.
Purpurite.—Doelter, C., 1.
Puschlav (Switzerland).—Spitz, A., 3; Staub, R., 2.
Pustula.—Branson, E. B., 5.
Putao (Upper Burma).—Stuart, M., 4.
Puys (Auvergne).—Glangeaud, P., 2, 3, 5 & 12; Gonnard, F., 1; Sabatini, V., 1.
Pycnodont fishes, Eocene.—Savornin, J., 2.
——, morphology.—Woodward, A. S., 19.
Pycnodonta.—Greco, B., 4.
Pycnodus.—Priem, F., 6; Savornin, J., 2; Woodward, A. S., 19.
Pycnomphalus.—Parks, W. A., 2.
Pycnostylus.—Parks, W. A., 2; Williams, M. Y., 11.
Pygaster.—Hawkins, H. L., 2.
Pygasteridæ, morphology.—Hawkins, H. L., 5.
Pygastrides.—Hawkins, H. L., 9.
Pyramidea.—Jourdy, E., 3.
Pyramidella.—Anderson, F. M.; Cerulli-Irelli, S., 1; Dall, W. H., 2; Martin, K.; Morgan, J. de, 1; Newton, R. B., 1.
Pyramidellidæ, Pliocene.—Cerulli-Irelli, S., 1.
Pyramidula.—Cockerell, T. D. A., 1; Johansen, A. C.; Trowbridge, A. C., 3.

Pyrargyrite, Mexico.—Castro, C., 3.
Pyrazisinus.—Dall, W. H., 2.
Pyrazus.—Cossmann, M., 1; Dainelli, G.
Pyrenean folding, Asturias.—Termier, P., 9.
Pyrenees.—Caralp, J.; Dalloni, M., 6; Douvillé, H., 23, 29, 30 & 32; Lapparent, J. de, 2–4; Muentz, A., 1 & 2; Spitz, A., 2; Stuart-Menteath, P. W., 2–5 & 7–9.
——, igneous rocks & minerals.—Lacroix, A., 21, 31, 51 & 52.
——, mineral waters.—Jadin, F., 2.
—— (Eastern), glaciation.—Mendel, O.
——, Navarrese.—Palacios, P., 1.
Pyrenees Mine (Victoria).—Baragwanath, W., 2.
Pyrgocystis.—Bather, F. A., 2.
Pyrgula.—Annandale, N., 1.
Pyrina.—Clark, W. B., 3; Hawkins, H. L., 10.
Pyrite.—Allen, E. T., 2.
——, Belgium.—Ledoux, A., 3.
——, Carnarvonshire.—Sherlock, R. L., 5.
——, Colorado.—Ungemach, H., 3.
——, Egypt.—Anon., 103.
——, France.—Lacroix, A., 57; Ungemach, H., 2.
——, Madagascar.—Ungemach, H., 1.
——, Norway.—Carstens, C. W., 1; Ries, H., 8.
——, Ontario.—Hopkins, P. E., 3; Parsons, A. L., 5.
——, Sardinia.—Lincio, G., 4.
——, Switzerland.—Stauffacher, J., 1.
——, Tennessee.—Taylor, J. H.
——, Trentino.—Bibolini, A.
——, Venetia.—Billows, E.
——, argentiferous.—Cesàro, G., 14; Zambonini, F., 6.
——, argentiferous.—Cesàro, G., 14; Zambonini, F., 6.
——, atmospheric oxidation of.—Winmill, T. F., 4.
——, auriferous, Piedmont.—Reinhold, T.
——, constitution of.—Goodchild, W. H., 4.
——, determination of sulphur in.—Craig, T. J. I.; Phillips, H.
—— in coal, Ohio.—Tucker, W. M.
——, in lake sediments.—Naumann, E., 3.
——, incrustations of.—Gregorio, A. de, 5.
Pyrobelonite.—Flink, G., 7.
Pyrochroite.—Aminoff, G., 11.
Pyroclastic rocks, Berwyn Hills.—Cope, T. H.
Pyrocystis.—Reed, F. R. C., 3.
Pyrolusite.—Billows, E.
Pyrometry, with the blowpipe.—Holmquist, P. J., 4.
Pyromorphite.—Amadori, M., 1 & 2; Shannon, E. V., 1.
Pyrope.—Doelter, C., 2.
Pyrophyllite.—Clapp, C. H., 4 & 6; Doelter, C., 2; Turner, H. W., 1.
Pyrophyllitisation, of rocks.—Buddington, A. F., 1.
Pyrosmalite.—Flink, G., 4.
Pyroxenes.—Cesàro, G., 9; Flink, G., 1; Ledoux, A., 4; Sen Gupta, K. K., 1.
——. *See also* Ægirine, Augite, Diopside.
Pyroxenite, Madagascar.—Lacroix, A., 49.
Pyrrhotite.—Mennell, F. P., 3; Taylor, J. H.
—— -norite, Sudbury.—Walker, T. L., 1.
Pyrularia.—Reid, C., 6.
Pythiopsis.—Morgan, J. de, 3.
Pythonomorpha, Cretaceous.—Repelin, J., 5.

Quadra I. (Vancouver).—Cairnes, D. D., 4.
Quadratirhynchia.—Buckman, S. S., 4.
Quadratus zone, Berkshire.—Hawkins, H. L., 11.
Quadricellaria.—Canu, F., 1.
Quadrumana, Pleistocene.—Portis, A., 1.
Quanah (Texas).—Wegemann, C. H., 6.
Quarries, d'Urville I., N.Z.—Thomson, J. A., 13.
——, iron-stone.—Hatch, F. H., 6.
Quarry industry, New York.—Newland, D. H., 1, 2 & 5.
——. *See also* Building materials.
Quarter (Lanarkshire).—Carruthers, R. G., 5.
Quartz.—Billows, E.; Franco, S. di, 2; Gonnard, F., 3; Grill, E., 1.
——, in basalt.—Fenner, C., 1.
——, coefficient of expansion of.—Barnes, H. T., 1.
——, colours of.—Watson, T. L., 7.
——, crystalline aggregates of.—Aminoff, G., 4.
——, cubical expansion of.—Wheeler, N. E.
——, deformation of, by pressure.—Musy, M., 4.
——, etch-figures of.—Ichikawa, S., 1.
——, fused, considered as a mineral.—Lacroix, A., 20.
——, optical properties of.—Boussinesq, J., 17.
——, porphyritic.—Holmquist, P. J., 1.
——, pseudomorph, S. Africa.—Van der Lingen, J. S.
——, refractory properties of.—Le Chatelier, H., 5.
——, replacement of sulphides by.—Wolcott, H. N.

Quartz, after tridymite.—Hawkes, L., 1.
——, twinning of.—Aminoff, G., 1.
—— -porphyry, Cumberland.—Holmes, A., 13.
—— sand, Manitoba.—Johnston, W. A., 10.
—— ——, Massachusetts.—Gordon, G. W.
—— veins, Belgium.—Doyen, A.
—— ——, Bendigo, Victoria.—Bateman, A. M., 3; Stilwell, F. L., 2 & 3; Taber, S., 5.
Quartzburg (Idaho).—Jones, E. L., 4.
Quartzite, Kansas.—Twenhofel, W. H., 5.
——, Madagascar.—Lacroix, A., 7.
——, Norway.—Goldschmidt, V. M., 1.
——, Taunus Mts.—Kegel, W.
——, stylolites in.—Tarr, W. A., 2.
——, thermal conductivity of.—Lehfeldt, R. A.
Quartzsite (Arizona).—Jones, E. L., 1.
Quaternary, Alaska.—Moffit, F. H., 2.
——, Allier Valley.—Glangeaud, P., 5.
——, Algeria.—Depéret, C., 8; Lamothe, L. de, 1.
——, Denmark.—Koch, L., 1.
——, Europe (N.-W.).—Œyen, P. A., 10.
——, Finland. — Wilkman, W. W., 1.
——, Florida.—Berry, E. W., 13; Chamberlin, R. T., 1 & 2; Chamberlin, T. C., 5; Hay, O. P., 4; Sellards, E. H., 1, 2 & 4–11; Vaughan, T. W., 10; Wickham, H. F., 4.
——, France (N.).—Commont, V., 3.
——, Greenland.—Jensen, A. S.
——, Italy.—Campana, D. del, 1 & 3; Gignoux, M., 3; Lotti, B., 1; Rovereto, G., 7; Stefano, G. de, 2.
——, Lappland.—Tanner, V.
——, Little Poland.—Lencewicz, S.
——, Maritime Alps.—Maury, E., 1.
——, New Jersey.—Salisbury, R. D., 1.
——, Norway.—Nordmann, V., 2; Œyen, P. A., 1–8 & 10–13; Rekstad, J., 5.
——, Oregon & Washington.—Bretz, J. H.
——, Piedmont.—Novarese, V., 1 & 2.
——, Portugal.—Sousa, F. L. P. de, 8; Roman, F., 2.
——, Sardinia.—Gignoux, M., 2.
——, Scandinavia.—Nordmann, V., 1.
——, Sicily.—Gregorio, A. de, 2, 5 & 8.
Quaternary, Sweden.—Bobeck, O.; Geer, G. de, 3; Gertz, O., 1; Halle, T. G., 4; Hœgbom, A. G., 1; Holst, N. O., 6; Madsen, V., 4; Mjœberg, E.; Munthe, H., 5; Post, L. von, 8; Sandegren, R., 2; Tamm, O., 5.
——, classification.—Depéret, C., 6.
——, migrations of mammalia.—Joleaud, L., 7.
——. *See also* Pleistocene.
Quebec, Prov. (Canada).—Cooke, H. C., 2–4 & 7; Dresser, J. A., 1–4; Foerste, A. F., 1; Graham, R. P. D., 1; Harvie, R., 1–4; Knox, J. K.; Mailhiot, A., 1–3; Tanton, T. L., 2 & 5; Wilson, M. E., 1–6 & 9–11.
——, building & ornamental stones.—Parks, W. A., 1.
——, clays & shales.—Keele, J., 2.
——, minerals & ore deposits.—Bancroft, J. A., 1 & 2; Camsell, C., 7; Poitevin, E., 2; Tyrrell, J. B., 7; *see also* QUEBEC, 1–5.
——, oil & gas fields.—Malcolm, W.
——, road materials.—Gauthier, H.; Picker, R. H.; Reinecke, L., 4 & 6–8.
Queen Charlotte mining dist. (B.C.).—Brewer, W. M., 3.
Queens Co. (Nova Scotia).—Faribault, E. R., 1, 3 & 4.
Queensland.—Etheridge, R., *fil.*, 6; Hope, G. B.; Richards, H. C., 1–4; Tillyard, R. J., 1–7; Walkom, A. B., 1–6.
——, Geological Survey.—Dixon, R.
——, minerals & ore deposits.—Ball, L.C., 1–18; Corbould, W. H.; Dunstan, B., 1–6; Jensen, H. I., 4–7; Reid, J. H., 2–5; Saint-Smith, E. C., 1–7; *see also* IMPERIAL INSTITUTE, 12; *&* QUEENSLAND, 1–3.
Queenstown dist. (Victoria).—Junner, N. R., 1.
Quenast (Belgium).—Ledoux, A., 1.
Quenstedtia.—Krenkel, E.
Quenstedticeras.—Douvillé, R.; Krenkel, E.
Quercus.—Chaney, R. W.; Colani, M.; Knowlton, F. H., 4; Marty, P., 2; Ravn, J. P. J., 2; Reid, C., 6; Sangiorgi, D., 2.
Quercytherium.—Depéret, C., 5.
Quetzaltepec, volcano (Salvador).—Lacroix, A., 55.
Quicksilver, Arizona.—Ransome, F. L., 1.
——, California.—Heberlein, C. A.
——, Nevada (W.).—Knopf, A., 2.
——, New Zealand.—*See* NEW ZEALAND, 6.
——, United States, production.—McCaskey, H. D., 1.
——. *See also* Mercury.
Quinqueloculina.—Cushman, J. A., 1.

Quintana Roo, dist. (Mexico).—Sanchez, P. C.
Quyon dist. (Quebec).—Wilson, M. E., 9.

Raasay I. (Scotland).—Thorneycroft, W.; Woodward, H. B.
Racewinite.—Winchell, A. N., 1.
Rachiopteris.—Seward, A. C., 1.
Rachiosoma.—Stefanini, G., 4.
Rachitomi, origin & evolution of the.—Watson, D. M. S., 10.
Radioactive change, chemical elements &.—Soddy, F., 6.
—— constituents, of carnotite.—Plum, H. M.
—— gases, Canada.—Satterly, J., 2.
—— haloes.—Joly, J., 1–4.
—— minerals, Canada (E.).—Robinson, C. W.
—— ——, Ontario.—Brunton, S.
—— ——, S. Africa.—Hahn, P. D.; Rogers, A. W., 1.
—— ——, density of lead from.—Richards, T. W., 2 & 3.
—— springs.—Loisel, P.; Moureu, C.; Ramsey, R. R., 1 & 2.
—— ——, Canada.—Satterly, J., 1.
—— ——, Colorado.—Lester, O. C.
—— ——, Germany.—Walter, E.
—— ——, India.—Steichen, A.
—— ——, Rhode Island.—Perkins, P. B.
—— ——, Sweden.—Sahlbom, N., 1.
—— waters, Philippine Is.—Heise, G. W., 7 & 8; Wright, J. R.
—— ——, Roumania.—Giurgea, E., 8.
Radioactivity, acquired.—Crookes, Sir W., 1.
——, age of the Earth &.—Holmes, A., 10.
——, of allanite.—Pratt, L. S.
——, of Archæan rocks, Mysore—Smeeth, W. F., 9.
——, coloration of minerals &.—Newbery, E.
——, Earth's thermal history &.—Coleman, A. P., 4; Holmes, A, 1, 2 & 6.
——, geological problems &.—Kynaston, H.
——, geological time &.—Holmes, A., 4; Shelton, H. S., 2.
——, of irrigating waters.—Larue, P.
——, isostasy &.—Becker, G. F., 1; Holmes, A., 6.
——, of meteorites.—Quirke, T. T., 5.
——, problems of.—Soddy, F., 5.
——, of Sardinian rocks.—Serra, A., 6.
——, of soils, Minnesota.—Sanderson, J. C.
Radiofascigera.—Canu, F., 4.
Radiolarian beds, Alsace.—Lapparent, J. de, 6.
—— ——, South Georgia.—Gregory, J. W., 28.
Radiolarian cherts, Oregon.—Smith, W. D., 3.
Radium, disintegration of.—Choudhari, T. C.
——, extraction of.—Cable, Mrs. R., MacArthur, J. S.
——, ——, from carnotite ores.—Parsons, C. L.; Schlundt, H.
——, interpretation of.—Soddy, F., 1.
——, origin of.—Soddy, F., 2.
——, production of.—Hess, F. L., 1; Viol, C. H.
——, in sea water.—Lloyd, S. J.
Radnorshire.—Cantrill, T. C., 3 & 4; Garwood, E. J., 3; Smith, H. G., 2; Watts, W. W., 3.
Radstockiceras.—Buckman, S. S., 3.
Rœtomya.—Newton, R. B., 12.
Rafinesquina.—Howell, J. V.; Mansuy, H., 1 & 4; Reed, F. R. C., 4; Savage, T. E., 4; Smith, W. S., 2; Trowbridge, A. C., 3.
Raglan (Queensland).—Jensen, H. I., 4.
Rain, muddy.—Eginitis, D., 7.
——, work of.—Bonney, T. G., 1.
Rainfall, Australia.—Taylor, G., 2.
——, Essex.—Whitaker, W., 8.
——, Switzerland.—Billwiller, R.; Roder, E., 1–3.
——, configuration &.—Salter, C.
Rainy Hollow (B.C.).—McConnell, R. G., 2.
Rainy River dist. (Ontario).—Johnston, W. A., 1 & 2.
Raised beaches, Brittany.—Dautzenberg, P., 1.
—— ——, Jersey.—Dunlop, A.
—— ——, Lake Huron.—Taylor, F. B., 1.
—— ——, Lake Michigan.—Wright, G. F.
—— ——, Norway.—Holmsen, G., 9; Rekstad, J., 4 & 8.
—— ——, Ontario.—Johnston, W. A., 4.
—— ——, Porto Rico.—Mitchell, G. J., 2.
—— ——, Spitsbergen.—Peach, A. M.
—— ——, Sweden.—Sandegren, R., 3.
Raja.—Pieragnoli, L.
Rajapur (Bombay).—Mann, H. H., 1.
Rajputana, Prov. (India).—Heron, A. M., 2 & 4.
Rakaia R. Basin (N.Z.).—Speight, R., 7.
Ramhäll (Sweden).—Lindroth, G. T., 1.
Ramos (Mexico).—Hough, G. J.
RAMSAY, Sir W., *Obit.*—*See* Anon., 71; Collie, J. N.,; Perrier E., 3; Richards, T. W., 1; & Taylor, R. L.
Ramsey I. (Pembroke).—Thomas, Herbert H.
Ramsöy (Norway).—Foslie, S.
Ramulina.—Chapman, F., 18.

Rance Valley (Brittany).—Vacher, A., 2.
Rancho La Brea (California).—Camp, C. L.; Chandler, A. C., 1; Knowlton, F. H., 2; Merriam, J. C., 14; Miller, L. H., 2 & 3; Stock, C., 1–3.
Randan (Auvergne).—Glangeaud, P., 5.
Randannite, Madagascar.—Lacroix, A., 33.
Randsfjord (Norway).—Holtedahl, O., 2.
Ranella.—Newton, R. B., 6.
Ranen dist. (Norway).—Oxaal, J., 2.
Rangifer.—Hay, O. P., 1; Nordmann, V., 1.
Rangitikei Valley (N.Z.).—Park, J., 2.
Ränken, Lake (Sweden).—Teiling, E., 2.
Ranmore Common (Surrey).—Davies, G. M., 4.
Ranunculus.—Reid, C., 6.
Rapakiwi (Finland).—Rosberg, J. E., 1.
Rapana.—Dall, W. H., 2.
Raphitoma.—Cossmann, M., 1; Harmer, F. W., 2.
Raptores, Pleistocene.—Miller, L. H., 3.
R'arb (W. Morocco).—Depéret, C., 7.
Rare earth industry.—Johnstone, S. J.
Rare earths.—Findlay, A.; Kremers, H. C., 1 & 2; Levy, S. I.; Peters, K., 1 & 2; Zambonini, F., 2 & 5.
——, separation of the.—Engle, E. W.; James, C.
—— minerals, Madagascar.—Waites, T. P.
——, Western Australia.—Simpson, E. S., 1.
"Rasskars," Norway.—Wråk, W.
Rastelligera.—Thomson, J. A., 17.
Rastrites.—Dollé, L., 1.
—— beds, Sweden.—Isberg, O., 3.
RATHBUN, R., *Obit.*—*See* Coe, W. R.
Rathite, mineral allied to, Binn Valley.—Solly, R. H., 1.
Ratnagiri District (India).—Mann, H. H., 2.
Ratonneau I. (Marseilles).—Repelin, J., 7.
Raung, volcano (Java).—Brouwer, H. A., 2.
Ravel (Auvergne).—Marty, P., 2.
Ravensbourne (Kent).—Leach, A. L., 5.
Ravines, erosion of, Norway.—Reusch, H., 7.
Ray Quadrangle (Arizona).—Ransome, F. L., 2.
Read-Rosebery dist. (Tasmania).—Hills, L., 2 & 3.
READE, T. M., *Biogr.*—*See* Reade, A. L.
Reading beds, Herts.—Kidner, H., 2.
Real del Monte Mine (Mexico).—Ordoñez, E., 2.
Realgar, Maritime Alps.—Orcel, J., 2.
Reaumurite.—Lacroix, A., 8.
Recent deposits, Montreal I.—Stansfield, J., 2.
—— ——, Morocco (W.).—Lecointre, G., 8.
—— ——, mapping of.—Kilian, W., 5.
Receptaculites.—Trowbridge, A. C., 3; Williams, M. Y., 11.
Recherche Bay—New River dist. (Tasmania).—Twelvetrees, W. H., 3.
Rectirhynchia.—Buckman, S. S., 4.
Rectorite.—Doelter, C., 2.
Red beds, New Mexico.—Case, E. C., 3; Turner, H. W., 3.
—— ——, Oklahoma.—Fath, A. E., 1.
—— ——, Texas.—Richard, L. M.
—— ——, Wyoming.—Branson, E. B., 1; Knight, S. H., 1 & 2.
—— ——, conditions of deposition.—Case, E. C., 5.
—— ——, origin of.—Tomlinson, C. W., 1.
—— ——, origin of copper ores in.—Rogers, A. F., 4.
Red clays, abyssal.—Kirkpatrick, R., 1.
Red Cliff (Colorado).—Means, A. H., 1.
Red Crag, Suffolk.—Moir, J. R., 6 & 7; Sollas, W. J., 4.
Red Deer R. (Alberta).—Allan, J. A., 4; Rose, B., 2.
Red dust, fall of.—Eginitis, D., 7.
—— earth, origin of.—Blanck, E., 2.
—— limestone, Victoria.—Chapman, F., 17.
—— marl, Salt Range, India.—Warth, H., 2.
Red River Basin (Manitoba).—Wallace, R. C., 3.
Red Rock Series, Arran.—Tyrrell, G. W., 5.
—— rocks, New Zealand.—Broadgate, F. K.
Red Sandstone Series, Dumfriesshire.—Horne, J., 8.
Redbank (Victoria).—Baragwanath, W., 2.
Redhill (Surrey).—Cox, A. H., 6.
REDWOOD, Sir B., *Obit.*—*See* K——, A. C.
Reed Lake dist. (Manitoba).—Alcock, F. J., 5; Bruce, E. L., 10.
Reef-building Corallinaceæ, Indian Ocean.—Lemoine, Mme. P.
Reef deposits, Cretaceous, S. E. France.—Kilian, W., 9.
—— ——, Devonian, Belgium.—Maillieux, E., 4 & 6.
—— ——, Palæozoic.—Brown, T. C., 3.
—— mining, Victoria.—Whitelaw, H. S., 4.
Reefton dist. (N.Z.).—Henderson, J., 1.

Refraction, index of.—Cesàro, G., 3 & 13; Evans, J. W., 5; Gaubert, P., 9; Ledoux, A., 6; Panebianco, R., 3; Souza-Brandão, V., 5.
Refractive index, measurement of, in minute crystal grains.—Wright, F. E., 4.
Refractometer, for measuring salinity of sea water.—Berget, A.
Refractory materials.—Boswell, P. G. H., 13, 17, 20 & 21; Cobb, J.; Le Chatelier, H., 5–8 & 10; McDowell, J. S., 1 & 2.
—— ——, England (N.).—Atkinson, J. B.
—— ——, Gt. Britain.—*See* Great Britain, 11.
—— ——, Montana.—Gunniss, W. H.
—— ——, Pennsylvania.—Fiske, C. P.
—— ——, Scotland.—Hinxman, L. W., 3.
—— ——, South Wales.—Howe, J. A.
—— ——, Yorkshire (S.).—Fearnsides, W. G., 1 & 5.
—— ——, for glass-making.—Davidson, J. H.; Johns, C.
Reggian Formation, Italy.—Galdi, B.
Regina Saskatchewan).—Reinecke, L., 10.
Regoa (Portugal).—Choffat, P., 6.
Rehamna (W. Morocco).—Russo, P., 4 & 5.
Reid, C., *Obit.*—*See* Anon., 72; Groves, J.; Harker, A., 4; Marr, J. E., 7; & Sheppard, T., 11.
Reid's Gap (Queensland).—Etheridge, R., *fil.*, 6.
Reigate dist. (Surrey).—Smith, E.
Reinach (Switzerland).—Jenny, F., 1.
Reindeer, in Denmark.—Nordmann, V., 1.
Rembang (Java).—t'Hoen, C. W. A. P., 1.
Remopleurides.—Reed, F. R. C., 3.
Renaix (Belgium).—Halet, F., 1.
Rendalen (Norway).—Holmsen, G., 6.
Renfrew (Ontario).—Bruce, E. L., 5.
Renfrewshire.—Carruthers, R. G., 8; Ferguson, D., 1; Leitch, P. A.; Tyrrell, G. W., 1.
Rennes (France).—Kerforne, F., 3.
Rensselæria.—Kegel, W.; Williams, H. S., 2.
Rensselærina.—Dunbar, C. O., 1.
Reoplax.—Smith, J., 1.
Reptiles, flight of extinct.—Harlé, E., 3.
Reptilia, carnivorous.—Broom, R., 6; Watson, D. M. S., 3.
——, Cretaceous.—Bayer, F., 1 & 2; Parks, W. A., 3.
——, Oligocene.—Mehl, M. G., 4.
——, Permian.—Watson, D. M. S., 1 & 8; Williston, S. W., 1, 3 & 6.
Reptilia, Permo-Carboniferous.—Williston, S. W., 5.
——, Permo-Triassic.—Boulenger, G. A., 1; Broom, R., 3, 5 & 8; Haughton, S. H., 1, 3 & 6.
——, Triassic.—Huene, F. von, 1; Mehl, M. G., 1–3; Wiman, C., 1, 3, 6 & 8.
——, classification & plylogeny.—Goodrich, E. S., 1; Williston, S. W., 7.
Requienia.—Douvillé, H., 2.
Requienidæ, evolution of the.—Douvillé, H., 2.
Rer R. (India).—Fermor, L. L., 2.
Reservoir rocks, petrology of.—Jones, W. F., 1; Lauer, A. W.; Lewis, J. O., 1; Rogers, G. S., 4.
Resorption, in eruptive rocks.—Erdmansdœrffer, O. H.
Retepora.—Faura, M.
Reticularia.—Day, H., 2; Etheridge, R., *fil.*, 1; Girty, G. H., 2 & 3; Weller, S., 1.
Retiolites.—Dollé, L., 1.
Retipirula.—Waring, C. A.
Retzia.—Molengraaff, G. A. F., 4; Tolmatcheff, I. P.; Trechmann, C. T., 2.
Reunion I. (Indian Ocean).—Lacroix, A., 37 & 64.
Revinian, Ardennes.—Anten, J., 5.
Rey (Mexico).—Ordoñez, E., 4.
Rhabdite.—Spencer, L. J., 2.
Rhabdobunus.—Hay, O. P., 1.
Rhabdocidaris.—Checchia-Rispoli, G., 12 & 20.
Rhacopteris.—Stopes, M. C., 1.
Rhactorhynchia.—Buckman, S. S., 4.
Rhadinichthys.—Day, H., 1; Eastman, C. R., 2.
Rhaetic, Maritime Alps.—Lanquine, A.
——, Monmouthshire.—Embrey, G., 1.
——, Rugby dist.—Nuttall, W. L. F.
——, Scotland.—Boswell, P. G. H., 8.
——, Switzerland.—Gerber, E., 1; Jeannet, A., 1.
——, Tonkin.—Deprat, J., 18; Pelourde, F., 1 & 2.
Rhagasostoma.—Canu, F., 2; Lecointre, G., 1.
Rhagite.—Doelter, C., 1.
Rhammatopora.—Lang, W. D., 1.
Rhamnus.—Baumberger, E., 2; Reid, C., 6; Sangiorgi, D., 2.
Rhamphomyia.—Cockerell, T. D. A., 10 & 20.
Rhamphostomella.—Canu, F., 4.
Rhenania.—Fuchs, A.
Rhenorensselæria.—Kegel, W.
Rheola (Victoria).—Whitelaw, H. S., 3.
Rhine, discharge of, at Basel.—Ghezzi, C.

Rhine Valley.—Montessus de Ballore, F. de; Spriestersbach, J.

—— —— (Lower).—Pohlig, H.

—— —— (Upper).—Braun, G., 1 & 2; Disler, C.; Roder, E., 1–3.

Rhinesuchus.—Haughton, S. H., 1.

Rhinobatus.—Erasmo, G. d', 1.

Rhinobolus.—Reed, F. R. C., 4.

Rhinoceros.—Dupuy de Lome, E., 1; Matsumoto, H., 1; Roman, F., 1.

Rhinocerotidæ, Oligocene.—Repelin, J., 8.

Rhinochimœra.—Leriche, M., 6.

Rhinoclavis.—Martin, K.

Rhinoptera.—Hussakof, L., 6.

Rhipidomella.—Girty, G. H., 3; Savage, T. E., 4; Stauffer, C. R., 5; Weller, S., 1; Williams, M. Y., 11.

Rhizammina.—Chapman, F., 18.

Rhizocrinus.—Clark, W. B., 3; Nielsen, K. B., 1 & 2.

Rhizodopsis.—Bolton, H., 1; Watson, D. M. S., 11.

Rhizopoda, Eocene.—Martin, K.

Rhizothyris.—Thomson, J. A., 4.

Rhode Island (U.S.A.).—Ashley, G. H., 1 & 2; Hawkins, A. C., 2 & 3; Shimer, H. W., 2; Warren, C. H., 3.

Rhodesia (S. Africa), coalfield.—Lightfoot, B.

——, igneous rocks.—Zealley, A. E. V., 2 & 10.

——, minerals.—Corstorphine, G. S.; Zealley, A. E. V., 1, 3, 4, & 6–8; *see also* Imperial Institute, 19.

—— (Northern), lead-zinc mines.—Speak, S. J.

—— (Southern).—*See* Southern Rhodesia.

Rhodochrosite.—Castro, C., 2.

Rhodocrinus.—Wright, J., *fil.*, 2.

Rhodonite.—Flink, G., 1.

Rhodusite.—Murgoci, G.

Rhoicosphenia.—Lozano, E. D., 3.

Rhone Glacier.—Heim, Alb., 5; Mercanton, P. L., 1; Swiderski, B.

—— Valley.—Lambert, J., 3; Lamothe, L. de, 2; Lugeon, M., 9; Termier, P., 11.

Rhopalomaria.—Girty, G. H., 2.

Rhus.—Sangiorgi, D., 2.

Rhyncholithes.—Stefani, C. de, 4.

Rhynchonella.—Asselberghs, E., 2; Buckman, S. S., 4; Diener, C.; Dunlop, R., 2; Garwood, E. J., 1; Gortani, M., 3; Greco, B., 1; Krenkel, E.; Mansuy, H., 1; Ravn, J. P. J., 2; Savage, T. E., 4; Steiger, P.; Trechmann, C. T., 3; Williams, H. S., 2.

Rhynchonellidæ, Jurassic.—Rollier, L., 7.

——, Recent & Tertiary.—Thomson, J. A., 2.

Rhynchonelloidea.—Buckman, S. S., 4.

Rhynchopora.—Girty, G. H., 1 & 4; Mansuy, H., 2; Weller, S., 1.

Rhynchospira.—Mansuy, H., 2; Reed, F. R. C., 4.

Rhynchotrema.—Howell, J. V.; Reed, F. R. C., 4; Savage, T. E., 4; Trowbridge, A. C., 3.

Rhynchotreta.—Reed, F. R. C., 4; Savage, T. E., 4; Weller, S., 1; Williams, M. Y., 11.

Rhynia.—Kidston, R., 6.

Rhynie (Aberdeenshire).—Horne, J., 7 & 10; Kidston, R., 6; Mackie, W.; Newlands, G., 1.

Rhyolite, California.—Clark, C. W.

Rhythms, in geological processes.—Barrell, J., 8.

Ribbius, W. G., *Obit.*—*See* Schuurman, J. A.

Ribe (Denmark).—Jessen, A., 1.

Ribeiro, C., *Obit.*—*See* Choffat, P., 7.

Riccarton (N.Z.).—Speight, R., 8.

Richardson Mts. (N.Z.).—Park, J., 9.

Richardton (N. Dakota).—Quirke, T. T., 4.

Richellite.—Doelter, C., 1.

Richmond Group, Ohio.—Foerste, A. F., 2.

—— Park (Surrey).—Grist, C. J., 2.

Richthofenia.—Scalia, S., 1; Stefano, G. de, 1; Stoyanow, A.

Ricinula.—Martin, K.

"Rideaux," in chalk regions.—Gentil, L., 16 & 17.

Riebeckite-granite, Madagascar.—Lacroix, A., 42.

—— -syenite, Portugal.—Lacroix, A., 40.

Riedel, A. A., *Obit.*—*See* Stolley, E.

Rietfontein (Orange Free State).—Rindl, M. M., 1.

Rifain Strait (Morocco).—Gentil, L., 9, 15 & 25.

Rift, Chimney Mt., New York.—Miller, W. J., 2.

——, Erythrean.—Montessus de Ballore, F. de.

—— hypothesis, Himalayan.—Burrard, Sir S. G., 2.

—— Valley, Tanganyika-Nile.—Holmes, A., 7; Stigand, C. H.

Rifted Relict-mountains.—Clarke, J. M., 5.

Rifts, formation of.—Cochain, A., 1.

Rigaud Mt. (Quebec).—Goldthwait, J. W., 1.

Rigaux, E., *Obit.*—*See* Cossmann, M., 2; Sauvage, H. E., 2; & Woodward, A. S., 8.

Right Middle Creek (Kentucky).—Jillson, W. R., 3.

Riksgrænsen (Norway).—Holmsen, G., 7.

Rillyia.—Cossmann, M., 1.

Rimella.—Dainelli, G.; Dickerson, R. E., 5; Martin, K.; Waring, C. A.

Rimirhynchia.—Buckman, S. S., 4.

Rimkinites.—Mansuy, H., 1.
" Ring " ore, Japan.—Kato, T., 4.
Rings, annual, in fossil wood.—Antevs, E., 7.
Ringiculella.—Newton, R. B., 1 & 6.
Ringinella.—Cossmann, M., 5.
Ringland (Norfolk).—Clarke, W. G., 2.
Ringold Formation, Washington.—Merriam, J. C., 17.
Rio (Elba).—Millosevich, F., 3.
Rio di Bocca d'Asino (Piedmont).—Bongo, F., 1.
Rio Grande Basin (New Mexico).—Case, E. C., 3.
——, water-supply.—Follansbee, R., 1.
Rio Grande do Norte (Brazil).—Soper, R. H.
Rio Tinto Mine (Queensland).—Saint-Smith, E. C., 4.
Rionite, Switzerland.—Stauffacher, J., 2.
Riphidia.—Cockerell, T. D. A., 20.
Ripi (Italy).—Grossi, M.
Ripple-marks.—Bucher, W. H., 1, 3 & 4; Epry, C.; Johnson, D. W., 1; Kindle, E. M., 9; Udden, J. A., 6.
——, Gotland.—Munthe, H., 3.
——, Ohio, in limestone.—Prosser, C. S., 4.
Rissoa.—Chapman, F., 16; Cossmann, M., 1 & 5.
Rissoia.—Cerulli-Irelli, S., 1; Morgan, J. de, 1.
Rissoidæ, Pliocene.—Cerulli-Irelli, S., 1.
Rissoina.—Bartsch, P.; Cerulli-Irelli, S., 1; Cossmann, M., 1; Dall, W. H., 2.
Ristinge Headland (Denmark).—Madsen, V., 2.
Ritom, Lake (Switzerland).—Collet, L. W., 10 & 11.
Ritzel, A., *Obit.*—*See* Anon., 73; & Linck, G.
Rive-de-Gier (Loire).—Bertrand, P., 7.
River, underground, Yorkshire.—Hobson, B., 1.
River-changes, Colorado.—Hancock, E. T.
——, Fier Valley, Savoy.—Gorceix, C., 1.
——, N. Dakota.—Leonard, A. G., 1.
——, Rance Valley, Brittany.—Vacher, A., 2.
——, Scotland.—Bremner, A., 1 & 6; Gregory, J. W., 17; Rhodes, J. E. W., 3.
——, Sussex.—Martin, E. A., 3.
—— -courses, development of.—Ahlmann, H. W., 2; Fawcett, C. B., 1.
—— -discharge, Cent. France.—Morin, P.
—— ——, Upper Rhine.—Ghezzi, C.; Roder, E., 1–3.
River-discharge, Yukon R.—Porter, E. A., 1.
—— ——, measurement of.—Hall, M. R.,; Jones, B. E.; Lyon, G. J.; Pierce, C. H., 1 & 3.
—— -gorges, Cornwall & Devon.—Dewey, H., 5.
—— ——, Katanga.—Schwetz, —.
—— ——, Mole R., Surrey.—Young, G. W., 3.
—— ——, Norway.—Reusch, H., 7 & 10.
—— -piracy, India.—Fermor, L. L., 2.
—— ——, Loir Valley.—Bochin, F., 1.
—— ——, Kentucky.—Jillson, W. R., 3.
—— —— Spey Basin.—Bremner, A., 2.
—— ——, Utah.—Anderson, G. E.
—— -surveys, W. United States.—Henshaw, F. F., 4 & 5; Marshall, R. B., 1–12; Meinzer, O. E., 2; Parker, G. L.
—— -terraces.—*See* Terraces.
—— -valleys, Canterbury, N.Z.—Speight, R., 1 & 4.
—— ——, pre-Glacial, Minnesota.—Soper, E. K., 1.
—— -waters, Iowa.—Gabriel, G. A.
—— ——, sulphates in.—Dole, R. B.; Shelton, H. S., 1 & 3.
Riverina, N. Coolgardie G. F. (Western Australia).—Feldtmann, F. R., 2.
Rivers, East Anglia.—Grantham, R. F.
——, England & Wales.—Strahan, Sir A., 12.
——, European.—Horwitz, L., 1.
——, Northamptonshire. — Thompson, B., 3.
——, Northern Terr., S. Australia.—Winters, R. J.
——, Peru.—Torres, A. D.
——, Scotland (S.).—Gregory, J. W., 19; Mort, F.
——, Sweden.—Geer, S. de, 3.
——, Yunnan.—Ward, F. K., 3.
——, ancient, of Bournemouth.—Reid, C., 2.
——, flow of.—Roberts, C. H.
——, limitations of denudation by.—Keyes, C. R., 7.
——, silt held in suspension by.—Collet, L. W., 2 & 5.
——, work of.—Bonney, T. G., 1.
Riviere Blanche (Quebec).—Wilson, M. E., 11.
Riwaka-Takaka dist. (N.Z.).—Henderson, J., 7.
Road-metal, Canada.—Reinecke, L., 3, 4 & 6–10.
——, Iowa.—Beyer, S. W.
——, New Brunswick.—Hayes, A. O., 3.
——, New Zealand.—*See* New Zealand, 3.

Road-metal, Ontario.—Clark, K. A.
——, Quebec.—Gauthier, H., 1 & 2; Picker, R. H.
——, non-bituminous.—Reinecke, L., 9.
Roath (Glamorgan).—North, F. J., 3.
ROBERTSON, A. J., *Obit.*—*See* Anon., 74.
Robertson dist. (S. Africa).—Perold, A. I.
Robinia.—Knowlton, F. H., 4.
Roc-de-Chère (Savoy).—Moret, L.
Rocailles, Plaine de (Savoy).—Kilian, W., 3.
Roche-sur-Foron (Savoy).—Kilian, W., 3.
Rochefortia.—Cossmann, M., 8.
Rochester (New York).—Giles, A. W.
—— mining dist. (Nevada).—Schrader, F. C., 2.
Rock-barrier, glacial, Grenoble.—Blanchard, R.
—— -boring organisms.—Barrows, A. L.; Jehu, T. J., 1.
—— -cliffs, Western Australia.—Jutson, J. T., 8.
Rock Creek (California).—Dickerson, R. E., 2.
—— —— (Texas).—Lull, R. S., 1; Troxell, E. L., 1 & 2.
Rock-diagrams, multiple.—Grout, F. F., 6.
—— -figures, Maritime Alps.—Bucknall, C.
—— -floors, Western Australia.—Jutson, J. T., 8 & 9.
—— -forming minerals, determination of.—Johannsen, A., 6.
—— -jointing, laws of.—Stevens, B.
—— -magmas, water in.—Campbell, J. M., 4.
—— -masses, metamorphism in.—Harker, A., 7.
Rock Mills (Yorkshire).—Woodward, A. S., 10.
Rock-platforms, Norway.—Hœgbom, A. G., 2; Rekstad, J., 6.
——, Sweden.—Munthe, H., 4.
——, marine.—Bartrum, J. A., 1.
—— -salt, India.—Stuart, M., 3.
—— -shelter, Connecticut.—MacCurdy, G. G., 1.
—— ——, Four, Switzerland.—Vouga, P.
—— -streams, Germany.—Salomon, W., 3.
—— ——, Gotland.—Hesselman, H., 1.
—— ——, Iceland.—Hawkes, L., 4.
—— ——, Switzerland.—Chaix, A.
—— -terraces, Wisconsin.—Martin, L.
Rocks, alteration of.—Buddington, A. F., 1; Stephenson, E. A.
——, analyses of.—Castro, C., 4; Clarke, F. W., 3; Cogswell, J. A.; Washington, H. S., 1 & 7.
——, cavities in.—Bridgman, P. W., 1.
Rocks, classification of.—Grout, F. F., 6; Mitchell, G. J., 1; Pirsson, L. V., 4; Smith, W. D., 6.
——, coefficient of expansion of.—Schulz, K.
——, cone structure in.—Neviani, A., 3.
——, earthy.—Chirvinski, P. N., 1.
——, fissuring of.—Ahlmann, H. W., 1; Hesselman, H., 1; Lohest, M., 1; Rosberg, J. E., 1 & 2.
——, foliation & metamorphism in.—Bonney, T. G., 9.
——, formation of, under pressure.—Johnston, J., 2.
——, genesis of.—Cole, G. A. J., 1; Daly, R. A., 15; Vialay, A.
——, internal friction in.—Adams, F. D., 5; King, L. V., 1.
——, movements in.—Adams, F. D., 4.
——, oolitic structure in.—Brown, T. C., 1.
——, percentage composition of.—Johannsen, A., 5.
——, petrography of sedimentary.—Cayeux, L., 3.
——, porosity of.—Du Toit, A. L., 1.
——, sculpturing of.—Escher, B. G., 2.
——, transmission of sound through.—King, L. V., 2.
——, tubular structures in.—Abbott, G., 5.
Rocky Mountains.—Blackwelder, E., 3; Clark, T. H.; Daly, R. A., 1; Horne, J., 2; Johannsen, A., 2; Lee, W. T., 2; Penhallow, D. P.; Tomlinson, C. W., 3; Walcott, C. D., 6.
—— —— (Canada).—Burling, L. D., 3 & 6.
—— —— (Colorado).—Chamberlin, R. T., 3.
—— —— (Southern).—Lee, W. T., 5.
—— ——, coalfields in.—Hills, R. C.
Rocky Mountains Park (Alberta).—Allan, J. A., 2 & 3.
Rocky Point (Vancouver).—Clapp, C. H., 7.
Rodalquilar (Spain).—Marín, A., 2.
Rodentia, Pleistocene.—Bate, D. M. A., 2.
——, sub-Recent.—Anthony, H. E., 1 & 3.
Rodez, Gorge of (Aveyron).—Marty, P., 1.
Rœmerella.—Girty, G. H., 1.
ROFE, H., *Obit.*—*See* Woodward, A. S., 8.
Roglinval (Belgium).—Fourmarier, P., 4.
Rokan (Sumatra).—Brouwer, H. A., 3.
Roland, Mt. (Fr. Jura).—Bourgeat, l'Abbé, 1.
Rolling Downs (Queensland).—Tillyard, R. J., 3.

Roma (Queensland).—Cameron, W. E., 2.
Rome (Italy).—Checchia-Rispoli, G., 20; Gignoux, M., 3; Meli, R., 1–5; Ossat, G. de A. d', 1 & 3; Palagi, A., 1 & 2; Portis, A., 1 & 2; Verri, A., 1.
Romeite.—Doelter, C., 1; Schaller, W. T., 3.
Romeu, A. de, *Obit.*—*See* Anon., 75; & Lacroix, A., 6.
Romney (West Virginia).—Prosser, C. S., 1.
Romsaas (Norway).—Reusch, H., 4.
Ronda, Serrania de (Spain).—Orueta, D. de, 1 & 3; *see also* La Ronda.
Rondeletia.—Berry, E. W., 18.
Rontgen rays, in Palæontology.—Field, R. M., 1.
Rope Haven (Cornwall).—Collins, J. H., 2.
Roquetas (Spain).—Rubio, J. M., 1.
Röragen (Norway).—Halle, T. G., 5.
Röros (Norway).—Carstens, C. W., 2; Ries, H., 8.
Rosa.—Knowlton, F. H., 4.
Rosales, H., *Obit.*—*See* Harker, A., 4.
Rosebery dist. (Tasmania).—Hills, L., 2 & 3.
Rose-quartz, colour of.—Watson, T. L., 7.
Roseto Valfortore (Italy).—Checchia-Rispoli, G., 14.
Rossano (Calabria).—Onetti, A.
Rosseliana.—Faura, M.
Rossignano (Piedmont).—Parona, C. F., 6.
Rossland (B.C.).—Bruce, E. L., 4; Drysdale, C. W., 1 & 3.
Rostellaria.—Cossmann, M., 1.
Rostellites.—Waring, C. A.
Rostro-carinate implements.—Haward, F. N.
Rostrocerithium.—Greco, B., 3.
Rotalia.—Chapman, F., 18.
Rottnen, Lake (Sweden).—Teiling, E., 2.
Roudaireia.—Fourtau, R., 4; Greco, B., 4.
Roumania.—Botez, G., 1–4; Botezat, E.; Butureanu, V. C.; Manolescu, S.; Pamfil, G. P.
——, mineral waters.—Giurgea, E., 1–8.
——, oilfields.—Schmidt, G.
——, origin of taurines in.—Cardas, A.
Routes, prehistoric, in Iberian Peninsula.—Faria, P. G.
Rovaniemi (Finland).—Hackman, V., 3.
Rovasenda, Conte L. di, *Obit.*—*See* Sacco, F., 7.
Rowlandite.—Doelter, C., 2.
Rowleyella.—Weller, S., 1.
Rowsley (Victoria).—Mahony, D. J., 3.
Roxania.—Cossmann, M., 1; Martin, K.
Royal School of Mines.—Watts, W. W., 1.
Rubiacites.—Berry, E. W., 18.
Rubidium, extraction of.—Browning, P. E.
Rubus.—Reid, C., 6; Welsch, J., 1.
Ruby, spectrum of the.—Moir, J., 2.
Ruby mining dist. (Washington).—Jones, E. L., 3.
—— Region (Alaska).—Eakin, H. M.
Rüdersdorf (Germany).—Schroeder, H.
Rudirhynchia.—Buckman, S. S., 4.
Rudistæ.—Douvillé, H., 1 & 3; Jodot, P.; Pruvost, P., 1
——, Bibliography.—Parona, C. F., 7.
Rudistes Limestone, Apennines.—Parona, C. F., 13.
Rudler, F. W., *Obit.*—*See* Anon., 76; Newton, E. T., 1; & Woodward, A. S., 2.
Rudolph, E., *Obit.*—*See* Sapper, K., 1.
Rueil (France).—Dollfus, G. F., 13.
Rugby (Warwickshire).—Nuttall, W. L. F.
Rugithyris.—Buckman, S. S., 4.
Rugosa, morphology.—Yakovlev, N. N.
——, systematic position.—Brown T. C., 2.
Ruitor, Mt. (Piedmont).—Preller, C. S. du R., 13; Sacco, F., 4.
Ruminant, fossil, Texas.—Troxell, E. L., 2.
Rumpfite.—Tschermak, G., 2.
Runcorn Hill (Cheshire).—Maidwell, F. T., 1; Rhodes, J. E. W., 1.
Ruoutevare (Lappland).—Gavelin, A., A., 1 & 2.
Rupelian, France.—Canu, F., 2.
Rush-Skerries section, Co. Dublin.—Smyth, L. B.
Russell's Creek goldfield (Victoria).—Murray, R. A. F.
Russia, Finnish erratics in.—Hausen, H., 2.
——, oilfields.—Adiassevich, A.; Calder, W.; Holiday, F. A.; Huntley, L. G., 1; Thompson, A. B., 1.
——, ore deposits.—Nishihara, G. S., 2; Stickney, A. W., 1 & 2; Harder, E. C., 2.
—— (Western).—Krenkel, E.
Russirhynchia.—Buckman, S. S., 4.
Rustler Springs Formation, Texas.—Udden, J. A., 3.
Ruta.—Reid, C., 6.
Rutile.—Baumhauer, H., 2; Bianchi, A., 2; Williams, C. M.
—— deposits, S. Africa.—Hall, A. L., 3.
—— ——, United States (Eastern).—Watson, T. L., 1.

Rutiodon.—Lull, R. S., 3; Sinclair, W. J., 4.
Rutland (Vermont).—Keith, A.
Rutotia.—Diener, C.

Saanich dist. (B.C.).—Clapp, C. H., 1.
Saar Valley (Germany).—Kessler, P.
Sabina.—Knowlton, F. H., 4.
Sabinas (Mexico).—Ibarra, J., 5.
Sabulia.—Stopes, M. C., 2.
Saccammina.—Garwood, E. J., 1.
Sacco Valley (Rome).—Meli, R., 5.
Sacral brain, in Dinosaurs.—Lull, R. S., 7.
Sacramento Valley (California).—Bryan, K.
Sætersdal-Ringerike area (Norway).—Werenskiold, W., 1.
Sagar Taluk (Mysore).—Jayaram, B., 7.
Sagda.—Roman, F., 2.
Sagenites.—Mansuy, H., 1.
Sagenodus.—Watson, D. M. S., 11.
Sagenopteris.—Knowlton, F. H., 5; Kryshtofovich, A., 2; Mœller, H.; Walkom, A. B., 2; Wieland, G. R., 1.
Sagittaria.—Reid, C., 6.
Sagittoceras.—Hind, W., 1.
Sagraina.—Chapman, F., 18.
Sahara.—Cana, F. R., 1.
—— (Eastern).—Lacroix, A., 21.
—— (Southern).—Chudeau, R., 1 & 2; Garde, G., 1.
Sahelian, Algeria.—Gentil, L., 8.
——, W. Morocco.—Depéret, C., 7.
Saignelégier (Switzerland).—Schuh, F.
St. Agnes dist. (Cornwall).—Fern, J. B.
St. Aignan (Papua).—Stanley, E. R., 2.
St. Albans (Herts.).—Williams, A. H.
St. Austell (Cornwall).—Hall, T. C. F.
Sainte-Baume Massif (Provence).—Haug, E., 1; Repelin, J., 2 & 9.
St. Bees Sandstone, Cumberland.—Melmore, S.
St. Bernard Pass (Switzerland).—Heydweiller, E.
St. Brelade (Jersey).—Fallaize, E. M.; Gruchy, G. F. B. de; Warton, R. G.
St. Cergue (Switzerland).—Lagotala, H.
St. Cloud (France).—Dollfus, G. F., 13.
Sainte-Engrace (Basses-Pyrénées).—Bertrand, L., 1.
St. Enoder (Cornwall).—Cardew, C. E.
St. Etienne (Loire).—Bertrand, P., 7.
Sainte-Florine (Haute-Loire).—Lacroix, A., 59.
St. Gall (Switzerland).—Bæchler, E.
St. George's Hill (Surrey).—Bromehead, C. N., 3.
St. Gilles (Marne).—Charpiat, R., 7.
St. Gothard (Switzerland).—Niggli, P., 4.
St. Joe (Arkansas).—Girty, G. H., 4.
St John (New Brunswick).—Hayes, A. O., 1 & 3; McLearn, F. H., 1; Stopes, M. C., 1.
St. John Lake area (Quebec).—Dresser, J. A., 2–4.
St. Laurs (Deux-Sèvres).—Welsch, J., 5.
St. Lawrence (Queensland).—Ball, L. C., 15.
St. Lawrence R. (Canada).—Spencer, J. W., 2 & 3.
—— Basin.—Chadwick, G. H., 1; Kindle, E. M., 15; Wilson, M. E., 7.
—— ——, water-supply.—Hoyt, W. G., 2 & 3.
St. Leonards (Sussex).—Abbott, W. J. L., 1.
St. Louis (Missouri).—Barton, D. C., 4.
—— Limestone, U.S.A.—Van Tuyl, F. M., 3.
St. Malo (Brittany).—Dautzenberg, P., 1.
St. Marcel (Italy).—Balzac, F., 1.
St. Maurice R. (Quebec).—Cooke, H. C., 4.
St. Mewan Beacon (Cornwall).—Collins, J. H., 5.
St. Michel (Finland).—Borgstrœm, L. H., 1; Frosterus, B., 1.
St. Michel-de-Maurienne (Savoy).—Kilian, W., 6.
St. Michel-en-l'Herm (Poitou).—Villain, P.
St. Monans (Fife).—Wright, J., *fil.*, 1.
St. Omer (Pas-de-Calais).—Gosselet, J., 1; Salmon, J.
St. Pierre-Aigle (Aisne).—Charpiat, R., 8.
St. Symphorien (Belgium).—Heupgen, J.; Stainier, X., 3.
St. Thuribe (Quebec).—Wilson, M. E., 11.
St. Tudwal's Peninsula (Carnarvonshire).—Nicholas, T. C., 1 & 2.
ST. VINCENT, B. de, *Biogr.*—*See* Lacroix, A., 30.
St. Zacherie (Gard).—Repelin, J., 6.
Sakhalin I. (Siberia).—Kryshtofovich, A., 1 & 2.
Sakura-Jima, volcano (Japan).—Kotô, B.; Omori, F., 1 & 2; Sabatini, V., 4.
Salanfe Alp (Switzerland).—Meyer, J.
Saldanha Bay (S. Africa).—Du Toit, A. L., 7.
Sale (Lombardy).—Bonomini, C., 3.
Salenia.—Clark, W. B., 3; Fourtau, R., 6; Gregory, J. W., 34; Stefanini, G., 4.
Salève, Mt. (Savoy).—Joukowsky, E.; Montandon, R., 2; Révil, J., 2.
Salina Formation, New York.—Gormley, I.

Salinas Quadrangle (California).—Hawley, H. J.
Salinity, of sea water.—Berget, A.; Hesselberg, T., 1 & 2; True, R. H.
——, ——, Weddell Sea.—Bruce, W. S.
Salix.—Knowlton, F. H., 4; Œyen, P. A., 11; Sangiorgi, D., 2.
Salles (Pyrenees).—Douvillé, H., 30.
Salmian, Belgium.—Anten, J., 1.
Salmo (B.C.).—Phillips, A. H., 1; Walker, T. L., 2.
Salonika (Macedonia).—Andrews, C. W., 9; Bourcart, J.; Campana, D. del, 7 & 8; Nelli, B., 1.
Salsomaggiore (Italy).—Vinassa de Regny, P., 2.
Salt, Alberta.—Camsell, C., 6.
——, California.—Gale, H. S., 1.
——, Canada.—Cole, L. H., 2.
——, Louisiana & E. Texas.—Norton, E. G.
——, Manitoba.—MacLean, A., 4.
——, Mexico.—Zarate, J. C.
——, Peru.—Guzman, J. M.
——Philippine Is.—Cox, A. J., 1; *see also* PHILIPPINE ISLANDS, 3.
——, Punjab, India.—Christie, W. A. K.; Stuart, M., 3.
——, United States.—Phalen, W. C., 1.
——, Transvaal.—Wagner, P. A., 5.
——, Yukon Terr.—Cairnes, D. D., 8.
——, deposition of.—Kindle, E. M., 11.
——, in plants, Cameroons.—Lacroix, A., 67.
——, in Swedish waters.—Richert, J. G., 2.
Salt crystals, formation of.—Long, E. T.
—— deposits, origin of.—Baddeley, W. St. C.; Branson, E. B., 2.
—— domes, Gulf Coast, U.S.A.—Golyer, E. de, 4; Jones, W. F., 2; Matteson, W. G., 1; Rogers, G. S., 5.
—— industry.—Martin, G.
—— marsh pools, origin of.—Harshberger, J. W.
—— marshes, Denmark.—Jessen, A., 1.
—— Range (India).—Christie, W. A. K.; Stuart, M., 2 & 3; Warth, H., 2.
—— River Range (Wyoming).—Mansfield, G. R., 2.
—— weathering.—Bather, F. A., 10.
Saltdal-Dunderlandsdal area (Norway).—Rekstad, J., 1.
Salten (Norway).—Rekstad, J., 10; Vogt, T., 1.
Salteraster.—Spencer, W. K., 2.
Salterella.—Cobbold, E. S., 2.
Saltholms Limestone, Denmark.—Jessen, A., 3.
'Salton Sea,' The.—MacDougal, D. T.
Salts, in soils.—Sharp, L. T.
Saluggia (N. Italy).—Roccati, A., 3.
Salween Valley (Yünnan).—Brown, J. C., 7; *see also* Lu Kiang.
Samaden (Switzerland).—Cornelius, H. P., 2.
Samaroblatta.—Tillyard, R. J., 7.
Samaropsis.—Kidston, R., 4.
Sambre-Meuse area (Belgium).—Bertiaux, A.; Lassine, A., 1–4; Malaise, C., 2.
Sambucus.—Reid, C., 6.
Samnangerfjord (Norway).—Kolderup, C. F., 3.
Samoa (S. Pacific).—Mayor, A. G., 4.
Sams Valley (Oregon).—Foote, W. M.
Samsun (Asia Minor).—Brière, Y.
San Bartolomeo (Lombardy).—Taramelli, T., 2.
San Carlos, Dept. (Chile).—Sundt. L., 1.
San Cristobal (Santo Domingo).—Donnelly, T. F.
San Diego Co. (California).—Calkins, F. C., 1.
San Georgio (Sardinia).—Comucci, P., 4.
San Giovanni Rotondo (Italy).—Checchia–Rispoli, G., 2.
San Guillermo (Mexico).—Bustamente, M.
San Joaquin Valley (California).—Anderson, R.; Gester, G. C.; Mendenhall, W. C.
San Jorge Formation, Patagonia.—Windhausen, A., 1.
San Jose (California).—Rogers, A. F., 9.
San Juan Basin (New Mexico).—Sinclair, W. J., 5.
——, dist. (California).—Anderson, F. M.
——, Mts. (Colorado).—Atwood, W. W., 5.
San Lorenzo Series, California.—Clark, B. L., 5.
San Luis Potosi, State (Mexico).—Ibarrola, A. M. de, 3; Wittich, E., 2.
San Marino (Italy).—Nelli, B., 2.
San Pablo Group, California.—Clark, B. L., 1; Kew, W. S. W., 1.
San Salvador (Cent. America).—Lacroix, A., 55.
San Salvatore Peninsula (L. of Lugano).—Escher, B. G., 1.
San Valentino (Trentino).—Bibolini, A.
Sancy, volcano (Auvergne).—Glangeaud, P., 9 & 11.
Sand, angle of repose of wet.—Webster, A. G.
——, flotation of.—Devaux, H.
——, fusion of.—Munroe, C. E.
——, mineralogical analysis of.—Tomlinson, C. W., 2.
——, pressure of.—Boussinesq, J., 6–16.

Sand-banks, formation of.—Barton, E. C.; Whitehead, W. A., 2.
—— -blast, corrosive action of natural.—Keyes, C. R., 1.
—— -dunes, *see* Dunes.
—— -grains, rounding of.—Galloway, J. J.; Kindle, E. M., 13.
—— "glaciers" & sand-plains, Western Australia.—Jutson, J. T., 12.
—— -layer, in chalk, Champagne.—Bochin, F., 2.
—— -ridges, Western Australia.—Jutson, J. T., 9 & 12.
—— -ripples, formation of.—Bucher, W. H., 3; King, W. J. H., 1.
—— -spits & sand-wastes.—Case, G. O.
Sandalopora.—Lang, W. D., 9.
Sandbergeria.—Cossmann, M., 1.
Sands, Berkshire, Mass.—Gordon, G. W.
——, Britain.—Searle, A. B.
——, Canada.—*See* CANADA, 13, 15 & 17.
——, Gascony.—Blayac, J., 2; Cayeux, L., 5; Dollfus, G. F., 14.
——, Mexico.—Ordoñez, E., 4.
——, Ontario.—Ledoux, A., 9.
——, bituminous, Alberta.—Ells, S. C., 1.
——, chrome-bearing, Maryland.—Singewald, J. T., *fil.*, 1.
——, concrete-making.—Boswell, P. G. H., 23.
——, Cretaceous & Eocene.—Davies, G. M., 1.
——, ferruginous, Italy.—Checchia-Rispoli, G., 17.
——, magnetic, Quebec.—*See* CANADA, 1.
——, metallurgical.—Boswell, P. G. H., 14.
——, moulding.—Boswell, P. G. H., 15.
——, ——, New York.—Newland, D. H., 4.
——, quartz, Manitoba.—Johnston, W. A., 10.
——, refractory.—Boswell, P. G. H., 12, 13 & 16–21; Ferguson, J. B., 1; *see also* GREAT BRITAIN, 11.
——, shore.—Bavay, A.
——, ——, Florida.—Kemp, J. F., 4.
——, Tertiary, Texas.—Dumble, E. T., 1.
——, texture of.—Boswell, P. G. H., 22.
——, Wealden.—Relf, F. J.
—— *See also* Musical sands.
Sandstone, silicification of.—Macgregor, A. M., 1.
——, in cavities.—Eskola, P., 1.
Sandstone "blows," New South Wales.—Paddison, A.
Sandstones, Appalachian oil-fields.—Reeves, F.; Shaw, E. W., 9.
——, Canada.—Cole, L. H., 3.
Sandstones, Lofoten, Is., Norway.—Kolderup, C. F., 8.
——, St. Bees.—Melmore, S.
——, Tunis.—Gaubert, P., 6.
——, ball structures in.—Smith, Bernard, 2.
——, banding in.—Reusch, H., 8.
——, dry.—Johnson, B. H.
——, formation of.—Whitehead, W. A., 1.
——, glauconitic.—Charpiat, R., 4, 10 & 13.
——, siliceous, W. Africa.—Hubert, H., 8.
——, structures in.—Percival, F. G., 2.
——, Triassic.—Rhodes, J. E. W., 1.
——, weathering of.—Hæberle, D.
Sandwich Is. (Pacific).—Bæckstrœm, O.
Sandy R. Basin (Oregon).—Marshall, R. B., 3.
Sangamon stage, Illinois.—Wickham, H. F., 2.
Sangi *or* Sangir Is. (E. Indies).—Komorowicz, P. M. Baron von; Szirtes, S., 2.
Sanguinolaria.—Clark, B. L., 1.
Sanguinolites.—Bolton, H., 1; Dunlop, R., 2; Macnair, P., 4.
Sanidine.—Kôzu, S., 4; Rosati, A., 1.
Sanjúnin-machi, Sendai (Japan).—Koiwai, K.
Sanni (Baluchistan).—Cotter, G. de P., 4.
Sannoisian, Provence.—Meunier, F.; Vasseur, G.
Santa Ana Mts. (California).—Dickerson, R. E., 1; Packard, E. L., 1.
Santa Cruz (Mexico).—Peña, M., 4.
Santa Eulalia dist. (Mexico).—Honigman, E., 1; Prescott, B., 2.
Santa Gertrudis Mine (Mexico).—Bustamente, M.
Santa Margarita beds, California.—Nomland, J. O., 6.
Santa Maria la Scala (Italy).—Franco, S. di, 1.
Santa Rita Mts. (Arizona).—Schrader, F. C., 3 & 4.
Santa Rosalia (Lower California).—Lopez, L.; *see also* MEXICO, 5.
Santa Ynez River dist. (California).—Kew, W. S. W., 3.
SANTESSON, G. H., *Obit.*—*See* Erdmann, E., 1.
Santiago R. (Peru).—Ulloa, L.
Santis, Mt. (Switzerland).—Bæchler, E.
Santo Domingo (W. Indies).—Donnelly, T. F.; Maury, C. J., 2; Miller, G. S., 2; Pilsbry, H. A., 4.
Saperda.—Cockerell, T. D. A., 19.
Saphœosaurus.—Boulenger, G. A., 7.
Sapindophyllum.—Baumberger, E., 2.
Sapindus.—Smith, W. S., 2.
Saponite.—Graham, R. P. D., 4.

Sapotacites.—Colani, M.
Sapphires, Queensland.—*See* Imperial Institute, 12.
Sapphirine.—Doelter, C., 2.
Sarasin, E., *Obit.*—*See* Rive, L. de la.
Saratogia.—Chapman, F., 23; Walcott, C. D., 3.
Sarcinite.—Doelter, C., 1.
Sarcolemur.—Sinclair, W. J., 1.
Sarcolite.—Cesàro, G., 10.
Sarcophilus.—Etheridge, R., *fil.*, 7.
Sardigliano (Piedmont).—Colomba, L., 3.
Sardinia.—Airaghi, C., 2; Bariola, R., 1; Comucci, P., 4; Gignoux, M., 2; Lovisato, D., 1–4; Novarese, V., 4; Taricco, M.; Termier, P., 1.
——, igneous rocks.—Deprat, J., 1; Serra, A., 1–7.
——, minerals.—Grill, E., 1 & 2; Lincio, G., 4; Manasse, E., 1 & 4; Washington, H. S., 2 & 12.
Sare-Ainhoa (Spain).—Stuart-Menteath, P. W., 6.
Sarek Mts. (Sweden).—Hamberg, A., 1 & 2.
Sarepta.—Marshall, P., 13.
Sargus.—Chapman, F., 7; Llueca, F. G.
Sarmatian, Sea of Marmora Basin.—Arabu, N., 6.
Sarrabus (Sardinia).—Taricco, M.
Sarsella.—Clark, W. B., 3.
Sart-Bernard (Belgium).—Lassine, A. 4.
Sartorite.—Smith, G. F. H., 7.
Sasa.—Koiwai, K.
Saskatchewan, Prov. (Canada).—Alcock, F. J., 1 & 3; Bruce, E. L., 2 & 3; Camsell, C., 5; MacLean, A., 2 & 3.
——, building stones.—Parks, W. A., 1.
——, clay resources.—Davis, N. B., 3.
——, coalfields.—Dowling, D. B., 1; Rose, B., 1, 3 & 4.
——, road materials.—Reinecke, L., 10.
——, surface deposits.—Stansfield, J., 5.
Saskatchewan R. Basin.—Allan, J. A. 4; Kindle, E. M., 3; Rose, B., 2; Tyrrell, J. B., 3.
Satsop Formation, Oregon & Washington.—Bretz, J. H.
Saturation, in igneous rocks.—Scott, A., 1; Shand, S. J., 1; Thomson, J. A., 19.
Saukia.—Chapman, F., 23; Walcott, C. D., 11.
Saurians, gastrolites of.—Wiman, C., 7.
——, Jurassic.—Gomes, J. P.
Sauripterus.—Eastman, C. R., 2; Gregory, W. K., 1.
Sauropoda, Cretaceous.—Lull, R. S., 4.
Sauropoda, determination of species in.—Mook, C. C., 5.
——, habitat of.—Mook, C. C., 7.
Sauropsidium.—Erasmo, G. d', 1.
Sauropterygia, the name.—Boulenger, G. A., 2.
Sauropus.—Lull, R. S., 3.
Saurostomus.—Woodward, A. S., 11.
Sausset (S. France).—Cottreau, J., 1.
Saut de la Pucelle, volcano (Auvergne) Glangeaud, P., 2.
Sauvage, H. E., *Obit.*—*See* Harker, A., 6.
Savona (Liguria).—Franchi, S., 6; Rovereto, G., 6.
Savoy (France).—Douvillé, H., 20; Girardin, P., 1, 4, 6 & 10; Kilian, W., 6; Preller, C. S. du R., 5; Révil, J., 1.
Sawtooth Quadrangle (Idaho).—Umpleby, J. B., 1.
Saxicava.—Dickerson. R. E., 9; Jehu, T. J., 1.
Saxidomus.—Clark, B. L., 1; Dickerson, R. E., 3.
Saxony.—Berberich, P.; Stevenson, J. J.
Scacchinella—Stoyanow, A.
Scala.—Cerulli-Irelli, S., 1; Newton, R. B., 1.
Scalaridæ.—Boury, E. de.
Scaldia.—Bolton, H., 1; Mansuy, H., 2.
Scaldicetus.—Chapman, F., 8.
Scaldisian, Belgium.—Depéret, C., 4.
Scales, of Gonorhynchid fishes.—Cockerell, T. D. A., 15.
Scalidæ, Pliocene.—Gerulli-Irelli, S., 1.
Scaloposaurus.—Broom, R., 4.
Scalpellum.—Chapman, F., 3 & 16; Withers, T. H., 1 & 3.
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——, post-Glacial climates.—Samuelsson, G.
——(N.W.), glaciation.—Enquist, F., 3.
Scandinavian drift, Durham.—Trechmann, C. T., 1.
Scania *or* Skåne, dist. (Sweden).—Ahlmann, H. W., 3; Antevs, E., 5; Gavelin, A., 3; Geer, G. de, 9; Gertz, O., 2; Grœnwall, K. A., 1 & 2; Hadding, A., 3; Holst, N. O., 6; Mœller, H.
Scapanorhynchus.—Priem, F., 6.
Scaphander.—Cossmann, M., 1; Martin, K.
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Scapolite.—Flink, G., 4; Geijer, P., 10; Lacroix, A., 74; Preiswerk, H., 2; Sundius, N., 2.
—— -bearing rocks, Finland.—Borgstrœm, L. H., 2.
—— ——, Norway.—Schetelig, J.
Scaptodon.—Chapman, F., 29.
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Scarps, in Alps.—Ludwig, A., 1.
Scarsdale (Victoria).—Baragwanath, W., 1.
Scaumenacia.—Eastman, C. R., 2; Gregory, W. K., 1.
Scelidotherium.—Sefve, I., 1 & 2.
Scenery, British.—Geikie, Sir A., 1.
Scenidium.—Reed, F. R. C., 4.
Schaffhausen (Switzerland).—Peyer, B.
Schapenberg (S. Africa).—Walker, A. R. E.
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——, Manitoba.—Bruce, E. L., 11.
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——, Saxony.—Berberich, P.
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Schiefergebirge (Germany).—Drevermann, F., 1.
Schist Lake area (Manitoba).—Bruce, E. L., 6 & 7.
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——, Mysore.—Sampat Iyengar, P., 1.
——, S. Africa.—Wagner, P. A., 6.
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——, cellular erosion of.—Négris, P., 1.
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Schizaropsis.—Canu, F., 11.
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Schizemiella & *Schizobathysella.*—Canu, F., 11.
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Schizoblastus.—Clark, T. H.
Schizocrania.—Reed, F. R. C., 4.
Schizodus.—Diener, C.; Girty, G. H., 1 & 2; Mansuy, H., 1; Stefani, C. de, 4; Williams, H. S., 2.
Schizoneura.—Pelourde, F., 2; Walkom, A. B., 1.
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Schizoporella.—Canu, F., 1 & 2; Faura, M.; Gregory, J. W., 23.
Schizorthosecos.—Canu, F., 11.
Schizostoma.—Girty, G. H., 1.
Schizothœrus.—Clark, B. L., 1; Packard, E. L., 2.
Schizothrix.—Walcott, C. D. 2.
Schlieren Flysch.—Buxtorf, A., 8.
Schlœnbachia.—Crick, G. C., 7; Greco, B., 2; Luethy, J.; Ravn, J. P. J., 2.
Schlotheimia.—Schmidt, E. W.; Spath, L. F., 1.
Schkeerpie Glacier (Pennine Alps).—Monterin, U., 2.
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Scissurellidæ, Pliocene.—Cerulli-Irelli, S., 2.
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——, Carboniferus.—Gregory, J. W., 32; Kidston, R., 1; Macnair, P., 2–8.
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Scunthorpe (Lincs.).—Dudley, H. E.
Scutaster.—Clark, W. B., 3.
Scutella.—Clark, W. B., 3; Dickerson, R. E., 14; Kew, W. S. W., 1; Lambert, J., 3; Lovisato, D., 2; Waring, C. A.
Scutularia.—Mansuy, H., 2.
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Searlesia.—Clark, B. L., 5; Harmer, F. W., 2.
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—— & Lands, distribution of.—Dufour, P. T.
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—— ——, petrology of.—Cayeux, L., 3; Gilligan, A., 4.
—— ——, sorting in.—Shaw, E. W., 8.
—— ——, the term.—Schaffer, F. X.
—— ——, vanadium in.—Phillips, A. H., 3.
—— zone, Samaden (Switzerland).—Cornelius, H. P., 2.
Sedimentation, Gulf Coast, U.S.A.—Shaw, E. W., 7.
——, French Alps.—Kilian, W., 16.
——, inequalities of.—Kindle, E. M., 14.
Sedimentation, marine.—Andrée, K., 5.
——, primitive.—Guébhard, A., 23.
——, process of.—Semper, M.
——, remarkable form of.—Dunn, E. J., 1.
Sediments, Auckland Harbour, N.Z.—Bartrum, J. A., 3.
——, Palma Bay, Majorca.—Buen y Lozano, R. de.
——, composition of elastic.—Udden, J. A., 1.
——, continental.—Blackwelder, E., 6.
——, deep sea.—Odén, S., 2.
——, Earth history &.—Blackwelder, E., 8.
——, freshwater, iron ore & pyrites in.—Naumann, E., 3.
——, landslides in unconsolidated.—Newland, D. H., 3.
——, marine, Helsingland.—Halden, B. E., 3.
——, ——, Portugal.—Gomes, J. P.
——, ——, characters of.—Kindle, E. M., 8; Vaughan, T. W., 9.
——, petrography of.—Andrée, K., 1.
——, precipitation of.—Kindle, E. M., 6.
——, sampling of.—Naumann, E., 1 & 2.
Seeds, dispersal of, by ocean currents.—Morris, Sir D.
Seekopf, Mt. (Carnic Alps).—Gortani, M., 3; Vinassa de Regny, P., 3.
Seelisbergerseeli, Lake (Switzerland).—Collet, L. W., 4.
Seely, H. M., *Obit.*—*See* Perkins, G. H.
Seeman, F., *Obit.*—*See* Anon., 78.
Segalas (Tunisia).—Gaubert, P., 6.
Seiches, Lake Maggiore.—Vercelli, F., 2.
Seillans (Var).—Guébhard, A., 4.
Seismic dispersion, theory of.—Marchi, L. de, 1; Oddone, E., 1.
—— elements, determination of.—Negri, G., 3 & 4.

Seismograms, time intervals in.—Mainka, C.

Seismograph records, Harvard.—Woodworth, J. B.

—— station, Chur.—Kreis, A.

Seismographs.—Burgess, J. H.; Capeder, G.; Hecker, O., 2; Quervain, A. de, 8; Shaw, J. J., 1 & 2.

Seismological Association, International.—Hecker, O., 1 & 6.

—— investigations.—Perry, J., 1 & 2; Shaw, J. J., 3; Turner, H. H., 1 & 2.

Seismology, Germany.—*See* Imperial Seismological Observatory.

——, Mexican.—Lumbier, M. M., 6.

——, modern.—Walker, G. W., 1.

Selachia, Cretaceous.—Lambe, L. M., 5.

——, Eocene.—Pieragnoli, L.

Selangor (Malay Peninsula).—Scrivenor, J. B., 8.

Selenaria.—Chapman, F., 16.

Selenella.—Weller, S., 1.

Selenichnus.—Lull, R. S., 3.

Selenium, production of.—Hess, F. L., 2.

Selensulphur, Hawaii.—Brown, G. V.

Selkirk Range (B.C.).—Horne, J., 2.

Selukwe (S. Rhodesia).—Maufe, H. B., 8; Zealley, A. E. V., 1 & 2.

Selva (Italy).—Quercigh, E., 1.

Semele.—Anderson, F. M.; Cossmann, M., 8; Dall, W. H., 2; Dickerson, R. E., 5 & 9; Nomland, J. O., 5.

Semicassis.—Bell, A., 5; Newton, R. B., 1.

Semiele.—Canu, F., 8.

Semi-fluids, mechanics of.—Boussinesq, J., 6–16.

Seminola.—Wade, B., 3.

Seminula.—Garwood, E. J., 1.

Semionotus.—Eastman, C. R., 2.

Semmons, W., *Obit.*—*See* Anon., 79.

Semseyite.—Smith, G. F. H., 4.

Senarmontite.—Doelter, C., 1.

Senatello, Vene del (Italy).—Canavari, M., 1.

Sendai (Japan).—Hayasaka, I., 1; Koiwai, K.; Yehara, S., 2.

Senecio.—Reid, C., 6.

Senegal (W. Africa).—Chudeau, R., 3; Douvillé, H., 21; Hubert, H., 3, 4 & 6–8.

Senonian, Algeria.—Dalloni, M., 5.

——, Provence.—Dehorne, Y., 6; Repelin, J., 2.

——, Tripoli.—Checchia-Rispoli, G., 13.

——Period, the.—Grossouvre, A. de, 1.

Sens (Yonne).—Hure, A.

Seoni District (India).—Burton, R. C.

Septarian structure, origin of.—Richardson, W. A., 2.

Septastræa.—Vaughan, T. W., 12.

Septifer.—Cossmann, M., 7; Nomland, J. O., 6; Waring, C. A.

Septum, of Ammonites.—Swinnerton, H. H., 4.

Sequoia.—Baumberger, E., 2; Nathorst, A. G., 1; Reid, C., 6; Smith, W. S., 2; Stopes, M. C., 2.

Seraphs.—Dickerson, R. E., 9.

Serbia, New.—Dedijer, J.

Sère-Argelès (Pyrenees).—Douvillé, H., 30.

Sericite.—Rogers, A. F., 3; Tolman, C. F., *fil.*, 2.

Sernft Valley (Switzerland).—Jenny, F., 2.

Serpentine, Piedmont.—Lincio, G., 3.

——, Quebec.—Graham, R. P. D., 1; Harvie, R., 1.

——, S. Africa.—Van der Lingen, J. S.

——, Vermont,—Wigglesworth, E.

——, origin of.—Benson, W. N., 9.

Serpentine belt, New South Wales.—Benson, W. N., 2–7.

Serpula.—Chapman, F., 16; Clark, B. L., 5; Krenkel, E.; Nomland, J. O., 5; Ravn, J. P. J., 2.

Serpulites.—Hede, J. E., 3; Trechmann, C. T., 3.

Serpulopsis.—Girty, G. H., 1.

Serpulorbis.—Dall, W. H., 2.

Serrivalle (Piedmont).—Bongo, F., 1.

Sesamodon.—Broom, R., 4 & 5.

Sette Comuni (Venetia).—Canavari, M., 3.

Settle (Yorkshire).—Hutton, J.

Setúbal (Portugal).—Costa, A. I. Marques da.

Seve Group, Scandinavia.—Gavelin, A., 4 & 5; Holmquist, P. J., 6; Quensel, P., 5 & 6.

Sevenoaks (Kent.)—Herries, R. S., 1 & 3.

Séviscourt (Belgium).—Rauw, H. de, 3.

Sèvres (France).—Cayeux, L., 4.

Sewage purification, geological factors in.—Cooper, E. A.

Sewlisee, Lake (Switzerland).—Collet, L. W., 3.

Seymour, Miss M., *Obit.*—*See* Anon, 80.

Seymour I. (Western Australia).—Thomson, J. A., 12.

Seymouria.—Watson, D. M. S., 8.

Sezze (Rome).—Meli, R., 2.

Shafferia.—Walcott, C. D., 8.

Shale, Canada.—Keele, J., 2 & 3; Ries, H., 3.

——, Britain.—Searle, A. B.

——, Minnesota.—Grout, F. F., 10.

——, Queensland.—Ball, L. C., 18.

——, black.—*See* Black shale.

——, graptolitic, depth of deposition.—Grabau, A. W., 10.

——, method of quarrying.—Farnham, D. T.

——, oil.—*See* Oil shale.

——, oolites in.—Tarr, W. A., 5.

Shamva Mine (Rhodesia).—Corstorphine, G. S.
Shan States (N.), Burma.—Brown, J. C., 6; Buckman, S. S., 1 & 4; Loveman, M. H., 1 & 2.
Shap (Westmoreland).—Morrison, J.
Shark R. deposits, New Jersey.—Harris, G. D.
Sharp Point (Vancouver).—Clapp, C. H., 3.
Shastasaurus.—Huene, F. von, 2; Wiman, C., 6.
Shattuckite.—Schaller, W. T., 2; Zambonini, F., 9.
Sheep River area (Alberta).—Slipper, S. E., 1 & 4.
‘ Sheet flows,” Western Australia.—Jutson, J. T., 11.
Sheffield dist. (Yorkshire).—Fearnsides, W. G., 3 & 4.
Shelburne Co. (Nova Scotia).—Faribault, E. R., 4 & 5; Powers, S., 3.
Shell beds, Norway.—Rekstad, J., 7.
——, —— Sweden.—Bodman, G.; Odhner, N. H., 1.
—— ——, post-Glacial.—Antevs, E., 8.
—— ——, sub-Recent, N. France.—Daniel, L.
—— deposits, formed by flood, Cambridge.—Lake, P.
—— sand, Victoria.—Mahony, D. J., 2.
Shells, calcite in fossil.—Meunier, S., 15 & 17.
Shenley (Herts.).—Pocock, R. W., 2.
Shepardia.—Lull, R. S., 3.
Sheraton (Durham.)—Woolacott, D., 2.
Sherburne Sandstone, U.S.A.—Grabau, A. W., 9.
Shere (Surrey).—Herries, R. S., 2.
Sherman Hill (Michigan).—Case, E. C., 7.
Shikarpur Taluk (Mysore).—Jayaram, B., 7.
Shimoga District (Mysore).—Balaji Rao, B., 1–3; Sen, A. M., 2.
—— Taluk.—Jayaram, B., 2 & 7.
Shinumo Quadrangle (Arizona).—Noble, L. F., 1.
Shippea (Cambridge).—Hughes, T. McK., 2.
Shooter’s Hill (Kent).—Leach, A. L., 2.
“ Shoots,” in metalliferous deposits.—Grout, F. F., 1.
Shore-line, Lake Huron.—Taylor, F. B., 1.
——, Lake Ontario.—Spencer, J. W., 3.
——, Avonian.—Vaughan, A., 2.
——, changes in the, Sussex.—Maddock, H. E.
——, development of the.—Johnson, D. W., 4.
——, Jurassic, Sutherland.—Macgregor, M.
Shore-line, parallelism of the, W. Mediterranean, with Somme Valley.—Lamothe, L., de 3.
——, Pleistocene, Maine & New Hampshire.—Katz, F. J., 5.
——, post-Pliocene displacement of the, Algeria.—Lamothe, L. de, 1.
Shoshone R. (Wyoming).—Hewett, D. F., 1.
Shoshonius.—Matthew, W. D., 14.
Shotover Hill (Oxford).—Bayzand, C. J.
—— Mts. (N.Z.).—Park, J., 9,
Shropshire.—Cobbold, E. S., 1; Johnston, M. S., 1; Kidston, R., 4; Stamp, L. D.; Watts, W. W., 4.
Shui-ko-Shan (China).—Wheler, A. S., 2.
Shumardella.—Weller, S., 1.
Shupiyan (Kashmir).—Brown, J. C., 3.
Siam.—Andersson, E., 1; Reed, F. R. C., 1.
Siberia.—Purington, C. W., 2 & 4.
Sicily.—Checchia-Rispoli, G., 3 & 9–12; Davison, C., 4; Gregorio, A. de, 1–8; Stefani, C. de, 5; Venturi, A.
——, sulphur deposits.—Hunt, W. F., 1; Toso, P., 3.
Sicker Series, B.C.—Clapp, C. H., 7.
Siderastræa.—Nomland, J. O., 1; Vaughan, T. W., 12.
Siderite.—Billows, E.
Sideritis.—Reid, C., 6.
Siderolites.—Douvillé, H., 22.
Sidi Kassem (Morocco).—Brives, A., 2; Lecointre, G., 6; Poirée, E.
Sidneyia.—Walcott, C. D., 11.
Siebengebirge (Germany).—Ledoux, A., 8.
Siena (Italy).—Ugolini, R.
Sierra Blanca coalfield (New Mexico).—Wegemann, C. H., 1.
Sierra co. (California).—Alling, M. N.
Sierra Leone (W. Africa).—Shand, S. J., 8; *see also* GREAT BRITAIN, 1.
Sierra Menera (Spain).—Callen, A. S.
Sierra Nevada (California).—Buwalda, J. P., 3 & 4; Mathes, F. E.
Sierra de Velasco (Argentina).—Kantor, M.
Sigaretus.—Martin, K.
Sigillaria.—Arber, E. A. N., 1; Bureau, E.; Kidston, R., 1 & 4; Stopes, M. C., 1.
Sigillariostrobus.—Arber, E. A. N., 1.
Sigmoilina.—Cushman, J. A., 1.
Silene.—Reid, C., 1.
Silexite, New York.—Miller, W. J., 7.
Silica, concentric ridges on.—Stansfield, J., 4.
——, production of.—Katz, F. J., 2.
Silica bricks.—*See* Bricks.
—— products.—Bigot, A., 6.
—— refractories.—Le Chatelier, H., 5; McDowell, J. S., 1.
—— rock, Gt. Britain.—*See* GREAT BRITAIN, 11.

Silicates.—Andersen, O., 2; Asch, W.; Morey, G. W., 3; Navarro, L. F., 11; Rankin, G. A., 1 & 3.
——, action of hot vapours on—Brun, A., 2.
——, of alumina.—Stremme, H., 1.
——, analysis of.—Brun, A., 3; Duparc, L., 1.
——, boron in.—Cesàro, G., 16.
——, composition of.—Cesàro, G., 15; Clarke, F. W., 1.
——, lead-zinc, new.—Van der Meulen, P. A., 2.
——, magnesia-lime.—Ferguson, J. B., 3 & 4.
——, specific heats of.—White, W. P., 4.
Silicification, of rocks.—Buddington, A. F., 1.
——, of limestone by algæ.—Lapparent, J. de, 5.
——, of sandstone.—Macgregor, A. M., 1.
Silico-aluminates, boron in.—Lacroix, A., 76.
Siliqua.—Clark, B. L., 1; Cossmann, M., 8; Fourtau, R., 4.
Sill, composite, Arran.—Scott, A., 4; Smellie, W. R., 3.
——, melaphyric, Algeria.—Brives, A., 3.
Sillen, Lake (Sweden).—Anrick, C. J., 2.
Sillimanite.—Doelter, C., 2; Flink, G., 4; Mawson, Sir D., 1.
Sillimanius.—Lull, R. S., 3.
Silt, deposition of.—Sernander, R., 2.
——. Pleistocene, Hainault.—Hallez, H., 1–3.
——, suspended in river water.—Boissier, R.; Collet, L. W., 2 & 5.
——, transportation of.—Muentz, A., 1 & 2.
Silting, Bay of Mt. St. Michel.—Galaine, C., 1
Silurian, America.—Bassler, R. S., 1.
——, Anticosti I.—Ulrich, E. O., 5.
——, Appalachian Region.—Ulrich, E. O., 4.
——, Ayrshire.—Reed, F. R. C., 4.
——, Belgium,—Bertiaux. A.; Fourmarier, P., 5; Lassine, A., 1–4; Ledoux, A., 1; Malaise, C., 1 & 2.
——, Britain.—Garwood, E. J., 2.
——, Carnic Alps.—Vinassa de Regny, P., 1.
——, Esthonia.—Twenhofel, W. H., 3.
——, Europe & America.—Grabau, A. W., 4.
——, Germany (N.) & Holland.—Boehnke, K.
——, Glamorgan.—North, F. J., 2.
——, Gotland.—Hede, J. E., 2 & 4; Hedstrœm, H., 4; Munthe, H., 2 & 6; Smith, J., 1; Twenhofel, W. H., 3.
Silurian, Hudson Bay Region.—Savage, T. E., 6 & 8.
——, Illinois, Missouri & Wisconsin.—Savage, T. E., 3 & 4.
——, Loire Valley (Lower).—Kerforne, F., 2.
——, Maine.—Williams, H. S., 1 & 2.
——, Mendip Hills.—Reynolds, S. H., 1.
——, Michigan.—Savage, T. E., 9.
——, Monmouthshire.—Gardiner, C. I., 1 & 3.
——, Morocco.—Lecointre, G., 7.
——, N. S. Wales.—Etheridge, R. *fil.*, 9 & 10; Mitchell, J., 2.
——, New York.—Clarke, J. M., 11; Taber, S., 6.
——, Normandy.—Anthoine, R., 1.
——, N. America (Eastern).—Schuchert, C., 4 & 8.
——, Nova Scotia.—McLearn, F. H., 6.
——, Ohio.—Prosser, C. S., 2 & 3.
——, Ontario.—Williams, M. Y., 2, 4–8 & 11.
——, Pennsylvania.—Mook, R. R.
——, Radnorshire.—Cantrill, T. C., 3; Watts, W. W., 3.
——, Sardinia.—Taricco, M.
——, Shropshire.—Stamp, L. D.
——, Sweden.—Hede, J. E., 1–4.
——, Tonkin.—Deprat, J., 14; Mansuy, H., 1 & 4.
——, Victoria.—Chapman, F., 5, 6 & 24; Junner, N. R., 3; Langford, W. G., 1.
——, Wisconsin.—Raymond, P. E., 4.
——, Yünnan.—Reed, F. R. C., 3.
Silurian-Devonian climates.—Barrell, J., 7.
Siluro-Cambrian limestones.—Anthoine, R., 2.
Siluro-Cambrian limestones.—Anthoine, R., 2.
Silurina.—Parks, W. A., 2.
Silver, British Columbia.—Brewer, W. M., 13; Dolmage, V., 2.
——, Chile.—Whitehead, W. L., 4.
——, Dutch East Indies.—Hogenraad, G. B.
——, Nevada.—Burgess, J. A.
——, N. S. Wales.—Wainwright, W. E.
——, New South Wales.—Wainwright, W. E.
——, Norway.—Bugge, C.
——, Ontario.—MacDonald, J. A.; Reid, J. A.
——, Rhodesia.—Zealley, A. E. V., 4.
——, Saskatchewan.—Camsell, C., 5.
——, Sweden.—Igelstrœm, L. J.
——, Victoria.—Dunn, E. J., 14.
——, Yukon Terr.—Cairnes, D. D., 8.
——, assay of.—Hall, E. J.
——, in galena ores.—Nissen, A. E.

Silver, halogen salts of.—Knopf, A., 6; Lindgren, W., 6; Young, J. W.
——, native, Michigan.—Nishio, K.
——, ores of.—Bastin, E. S., 3; Fulton, C. H.
——, precipitants of.—Elley, H. W.; Palmer, C., 1 & 2.
——, production of.—McCaskey, H. D., 2.
——, ——, Canada.—*See* Canada, 3 & 8.
——, ——, United States.—Brooks, A. H., 1; Butler, B. S., 5; Dunlop, J. P., 1; Gerry, C. N.; Heikes, V. C., 1–4; Henderson, C. W., 1–3; Hill, J. M., 3; Yale, C. G.
——. *See also* Silver-load.
Silver City (Kansas).—Twenhofel, W. H., 5.
—— crystals, structure of.—Vegard, L., 1.
—— deposits, N. & S. America.—Lindgren, W., 5.
Silver-lead, Burma.—Brown, J. C., 8; Hoffmann, J. D.; Loveman, M. H., 1.
——, Idaho.—Nichols, R.
——, Mexico.—Bustamente, M.; Fernandez, R., 2; Ibarra, J., 8–12; Luna, A.; Moedano, E.; Ramirez, S.; Villafaña, A., 3.
——, Queensland.—Ball, L. C., 12; Cameron, W. E., 1, 3 & 4.
——, S. Australia.—*See* South Australia, 9 & 12.
——, Sumatra.—Adam, J. W. H.; Caron, M. H.
——, Sze-Chuan.—Way, H. W. L.
Silver-lead-zinc ores, Mexico.—Prescott, B., 2.
Silver ores, enrichment of.—Ravicz, L. G.
—— ——, microscopic study of.—Guild, F. N.
Silver Spur Mine (Queensland).—Ball, L. C., 12; Saint-Smith, E. C., 1.
Simcoe, Lake (Ontario).—Johnston, W. A., 3.
Simeto (Sicily).—Stefani, C. de, 5.
Similkameen, dist. (B.C.).—Brewer, W. M., 7; Camsell, C., 1.
Simoceras.—Schneid, T.
Simondium (S. Africa).—Prior, G. T., 3.
Simopithecus.—Andrews, C. W., 6.
Simorhinella.—Broom, R., 6.
Simplon Tunnel (Switzerland).—Arndt, H.; Preiswerk, H., 1; Schardt, H., 3.
Simplorbites.—Douvillé, H., 7.
Simpson, J. C., *Obit.*—*See* Harker, A., 4.
Simpson, W., *Obit.*—*See* Woodward, A. S., 8.
Simpson Pass (Alberta).—Allan, J. A., 3.
Sinai, Peninsula of.—Ball, J., 1; Barthoux, J., 2; Mrazec, L., 2 & 3.
Sinedra.—Lozano, E. D., 3.
Sinello (Trentino).—Scalia, S., 3.
Sinemurian, Arabia.—Greco, B., 1.
Sinocystis.—Bather, F. A., 16–18; Reed, F. R. C., 3.
Sinodia.—Newton, R. B., 6.
Sinoia (S. Rhodesia).—Molyneux, A. J. C.
Sinopa.—Matthew, W. D., 11.
Sinturu (Dutch Borneo).—Hœvig, P., 3.
Sinum.—Clark, B. L., 5; Dall, W. H., 2; Waring, C. A.
Sipho.—Bell, A., 5; Harmer, F. W., 2.
Siphogenerina.—Cushman, J. A., 1.
Siphonalia.—Anderson, F. M.; Clark, B. L., 1; Cossmann, M., 1; Dickerson, R. E., 4–6; Marshall, P., 13; Martin, K.; Moody, C. L., 1; Nomland, J. O., 6.
—— *sutterensis* zone, Oregon.—Dickerson, R. E., 4.
Siphonia.—Cushman, J. A., 1.
Siphonotreta.—Jehu, T. J., 3; Reed, F. R. C., 4.
Sirenia, Tertiary.—Matthew, W. D., 2.
Sismondia.—Clark, W. B., 3.
Sisyra.—Cockerell, T. D. A., 20.
Sium.—Reid, C., 6.
Sivaelurus.—Pilgrim, G. E., 6.
Sivapithecus.—Gregory, W. K., 3 & 5; Pilgrim, G. E., 5.
Siwalik, India.—Pilgrim, G. E., 1–8.
Six Mile Creek (New York).—Rich, J. L., 7.
Sjögrufvite.—Doelter, C., 1.
Skarhult (Sweden).—Hede, J. E., 3.
Skeena dist. (B.C.).—Brewer, W. M., 2 & 3.
Skeleton, of *Archæopteryx.*—Petronievics, B., 5.
——, of *Sus* & *Bos.*—Suschkina-Popowa, N.
——, of *Trimerorhachis.*—Williston, S. W., 4.
Skerries, (Co. Dublin),—Smyth, L. B.
Skiddaw Mt. (Cumberland).—Dunn, J. W.; Green, J. F. N., 9.
Skillöt, Lake (Sweden).—Anrick, C. J., 2.
Skookum (Yukon Terr.).—Johnston, R. A. A., 2.
Skull, of Dicynodonts.—Sollas, I. B. J.
——, of Hominidea.—Cameron, J.
——, of Mylodont Sloths.—Stock, C., 1–3.
——, of Pelycosauria.—Watson, D. M. S., 5.
——, of *Tritylodon.*—Petronievics, B., 1.
——. *See also* Piltdown & Talgai skull.
Skumbi R. (Albania).—Dedijer, J.
Skye, I. of (Scotland).—Thorneycroft, W.

Skykomish R. (Washington).—Marshall, R. B., 6; Smith, W. S., 1 & 2.

Slate, Tasmania.—Twelvetrees, W. H., 11.

——, United States.—Dale, T. N., 3.

——, production of.—Loughlin, G. F., 5.

Slate Is. (Lake Superior).—Parsons, A. L., 4.

Slättberg (Sweden).—Aminoff, G., 1.

Slave Lake, Lesser (Alberta).—Allan, J. A., 5.

Sliddery Water (Arran).—Tyrrell, G. W., 5.

Slocan dist. (B.C.).—Bancroft, M. F.; Drysdale, C. W., 7; Galloway, J. D., 6; Le Roy, O. E.; Uglow, W. L., 3.

Slopes, submarine.—Gardiner, J. S.

Sloths, fossil.—Lull, R. S., 1; Stock, C., 1–4.

Smeaton (Victoria).—Baragwanath, W., 5.

Smedberg (Sweden).—Westerberg, N.

Smilodon.—Stock, C., 5.

Smith, E. A., *Obit.*—*See* Anon., 81.

Smittina.—Canu, F., 3 & 4.

Smoky R. (Alberta).—McLearn, F. H., 8.

Smölen I. (Norway).—Holtedahl, O., 1; Reusch, H., 3.

Smolika, Mt. (Greece).—Niculescu, C., 4.

Snake Creek beds, Nebraska.—Sinclair, W. J., 2.

Snake R. (Idaho).—Marshall, R. B., 2.

——(Nebraska).—Barbour, E. H., 1.

Snoqualmie R. (Washington).—Marshall, R. B., 6.

Snow, condensation & evaporation at surface of.—Rolf, B.

——, radiation & temperature of.—Ångstrœm, A.

——. *See also* Nivation.

Snow arch, Mt. Washington.—Goldthwait, J. W., 7.

—— crystals.—Dobrowolski, A. B.

—— line, Savoy.—Girardin, P., 4.

Soapstone, production of.—Diller, J. S., 5.

——. *See also* Steatite.

Soda deposits, Mexico.—Flores, T., 4.

—— ——, Mysore.—Balaji Rao, B., 4.

Sodalite.—Doelter, C., 2.

—— -tephrite, Bohemia.—Scheit, A.

Södermanland (Sweden).—Anrick, C. J., 2; Palmgren, J.

Sodium, in igneous rocks.—Washington, H. S., 4.

Sogn (Norway).—Oxaal, J., 1.

Soignies (Belgium).—Bergeron J., 3.

Soil, cooling of the.—Franklin, T. B.

Soil-cap, movements of the.—Eblé, L.; Gentil, L., 16 & 17; Scharff, R. F., 1.

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——, New York.—Knight, N., 1.

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——, Nova Scotia.—Harlow, L. C.

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Streptorhynchus.—Girty, G. H., 1; Mansuy, H., 1; Weller, S., 1.
Striæ, glacial, Norway.—Schiœtz, O. E.
——, in mica.—Ghose, P. N.; Raman, C. V.
Strigatella.—Dall, W. H., 2.
Stricklandinia.—Reed, F. R. C., 4; Savage, T. E., 3; Williams, M. Y., 11.
Striirhynchia.—Buckman, S. S., 4.
Strobilepas.—Withers, T. H., 2.
Stromatopora.—Boehnke, K.; Dehorne, Y., 4; Holtedahl, O., 1.
Stromatoporella.—Dehorne, Y., 6.
Stromatoporoidea, Devonian.—Dehorne, Y., 2.
——, Mesozoic.—Dehorne, Y., 8.
——, Silurian.—Boehnke, K.
——, morphology & classification.—Dehorne, Y., 7; Heinrich, M.
Strombina.—Pilsbry, H. A., 3.
Strombodes.—Williams, M. Y., 11.
Stromboli.—Fiore, O. de, 3; Kôzu, S., 7; Perret, F. A.; Platania, G., 1; Ponte, G., 2 & 3; Riccò, A.; Washington, H. S., 8.
Strombus.—Dall, W. H., 2; Greco, B., 3.
—— beds, Italy.—Gignoux, M., 2 & 3.
Strömsund (Sweden).—Frœdin, G., 10.
Strongylocentrotus.—Clark, W. B., 3.
Strontianite deposits, Gt. Britain.—Sherlock, R. L., 2.
Strontium, in rare earths.—Zambonini, F., 2 & 5.
Strophalosia.—Etheridge, R., *fil.*, 1; Girty, G. H., 1; Grœnwall, K. A., 6; Mansuy, H., 2; Trechmann, C. T., 3; Weller, S., 1.
Stropheodonta.—Fuchs, A.; Kegel, W.; Parks, W. A., 2; Reed, F. R. C., 4; Stauffer, C. R., 5.
Strophodus.—Priem, F., 3.
Strophomena.—Diener, C.; Gortani, M., 3; Mansuy, H., 1 & 4; Parks, W. A., 2; Reed, F. R. C., 4.
Strophomenidæ, Silurian.—Hedstrœm, H., 4.
Strophonella.—Reed, F. R. C., 4; Williams, M. Y., 11.
Strophostylus.—Girty, G. H., 2; Vinassa de Regny, P., 3; Williams, H. S., 2; Williams, M. Y., 11.
Stroudithyris.—Buckman, S. S., 4.
Structures, developed in rocks by pressure.—Stainier, X., 1.
Struebin, K., *Obit.*—*See* Buxtorf, A., 5.
Struever, G., *Obit.*—*See* Rosati, A., 3; & Zambonini, F., 1.
Struever, J. K. T., *Obit.*—*See* Anon., 84.
Struthiocephalus.—Haughton, H. S., 1.
Struthiolaria.—Marshall, P., 8.
Struthiomimus.—Osborn, H. F., 7.
Strüverite.—Ungemach, H., 1.
Stuston (Suffolk).—Mayfield, A.
Stylangia.—Vaughan, T. W., 12.
Stylemys.—Case, E. C., 6.
Stylifer.—Cossmann, M., 1.
Stylina.—Gregory, J. W., 39.
Stylolites, in quartzite.—Tarr, W. A., 2.
Stylolitic structure, in marble.—Gordon, C. H.
Stylonurus.—Shuler, E. W., 1.
Stylophora.—Filliozat, M., 2; Gregory, J. W., 39; Vaughan, T. W., 12.
Styracosauras.—Lambe, L. M., 1.
Styrax.—Reid, C., 6.
Styrechinus.—Checchia-Rispoli, G., 10.
Styria (Austria).—Schadler, J.
Styx R. Series, Queensland.—Walkom, A, B., 5.
Su ludu nieddu (Sardinia).—Manfredi, P.
Su Suergin (Sardinia).—Lincio, G., 4.
Sub-Crag beds.—Bell, A., 3 & 5; Clarke, W. G., 3; Moir, J. R., 6 & 7.
Sublimations, volcanic, Roumania.—Pamfil, G. P.
Submerged forests.—*See* Forests.
—— platforms, Indian Ocean.—Schwarz, E. H. L., 2.
Submergence, Long Island.—Fairchild, H. L., 3.
——, coastal, Maine.—Meserve, P. W.
——, marine, Quebec.—Goldthwait, J. W., 1.

Submergence, periodic, of Europe.—Schuchert, C., 10.
——, Pleistocene.—Marr, J. E., 4.
——, post-Glacial, of peat surface.—Warren, S. H., 6.
Subsidence, Ærtbölle Head (Denmark).—Madsen, V., 3.
——, Maine.—Davis, C. A., 1.
——, Örnsköldsvik (Sweden).—Carlzon, C.
——, Glacial, N.E. America.—Fairchild, H. L., 5.
——, Pliocene, Algeria.—Dalloni, M., 12.
——, post-Glacial, Norway.—Reusch, H., 5.
——, of reef-encircled islands.—Davis, W. M., 17.
——, Recent, Brittany.—Pussenot, C., 1 & 2.
——, ——, Egypt.—Audebeau Bey C.
——, ——, Vendean coast.—Baudouin, M., 1.
Subsidences, in coal mining.—Lloyd, W. D.; Young, L. E., 1 & 2.
Subsoil, Cordoba (Argentina).—Doering, A.; Frenguelli, J.
——, Pisa (Italy).—Canavari, M., 2.
Success Mine (Idaho).—Hershey, O. H.; Umpleby, J. B., 3.
Succinea.—Cossmann, M., 1; Johansen, A. C.; Trowbridge, A. C., 3.
—— beds, N. France.—Comment, V., 3.
Sudan (N. Africa).—Lacroix, A., 75, 77 & 78.
Sudburite.—Brackenbury, C.
Sudbury (Ontario).—Bateman, A. M., 1; Coleman, A. P., 3; Collins, W. H., 2; Dresser, M. A.; Goodchild, W. H., 6; Knight, C. W., 2; Roberts, H. M.; Walker, T. L., 1.
—— district.—Tanton, T. L., 3.
—— Series.—Coleman, A. P., 1.
SUESS, E., *Obit.*—*See* Mrazec, L., 1; Nathorst, A. G., 3; Termier, P., 3; *&* Woodward, A. S., 2.
Suessonian, Morocco.—Brives, A., 4.
Suffolk.—Bell, A., 3 & 7; Boswell, P. G. H., 1, 4 & 6; Clarke, W. G., 1; Hacon, C. R.; Moir, J. R., 1, 3, 5–8, 10–12 & 17.
Suimo (Portugal).—Choffat, P., 1.
Sula.—Shufeldt, R. W., 2.
Sulcatipinna.—Girty, G. H., 2.
Sulcoactœon.—Cossmann, M., 5.
Sulitelma area (Norway).—Holmsen, G., 8.
Sulpharsenides.—Brun, A., 5 & 6.
Sulphate, metallic, Sardinia.—Comucci, P., 4.
Sulphates, crystalline structure of alkaline.—Ogg, A.
——, in water.—Bruckmiller, F. W., 1; Dole, R. B.; Shelton, H. S., 1 & 3.
Sulphide intergrowths, paragenesis of.—Whitehead, W. L., 1.
—— ores, Celebes.—Hœvig, P., 2.
—— ——, Connecticut.—Howe, E.
—— ——, S. Australia.—Connor, J. D.
—— ——, Tasmania.—Hills, L., 2 & 3.
—— ——, constitution of.—Goodchild, W. H., 4.
—— ——, crystallisation of.—Carstens, C. W., 1.
—— ——, enrichment of.—Clark, J. D., 1; Kato, T., 5; Nishihara, G. S., 1; Young, S. W., 1 & 2; Zies, E. G.
—— ——, magmas &.—Coleman, A. P., 9.
—— ——, magmatic.—Tolman, C. F., *fil.*, 5.
—— ——, sphalerite in.—Teas, L. P.
—— ——, treatment of.—Rigg, G.
—— ——, water &.—Hodge, E. T.
Sulphides, dissociation pressures of.—Allen, E. T., 2.
——, replacement of, by quartz.—Wolcott, H. N.
Sulphur, Argentina.—Perrier, C., 2.
——, Baluchistan.—Cotter, G. de P., 4.
——, Egypt.—Schneider, O.
——, Java.—Van Gelder, J. K.
——, Mexico.—Espinosa, L. C., 2; Paredes, T., 5.
——, Norway.—Kolderup, C. F., 7.
——, Sicily.—Hunt, W. F., 1; Toso, P., 3.
——, Spain.—O'Shea, W.
——, Texas.—Phillips, W. B., 4.
——, United States.—Pogue, J. E., 3.
——, crystalline form of.—Comucci, P., 5; Gaubert, P., 3.
——, in antimonite.—Quercigh, E., 1.
——, deposition of.—Ōinouye, Y., 2.
——, in galena.—Phillips, W. T.
——, native.—Bergeron, J., 3.
——, organic origin of.—Bargagli-Petrucci, G.
——, in petroleum.—Rogers, G. S., 6.
——, in pyrite.—Craig, T. J. I.; Phillips, H.
——, the term.—Guareschi, I., 2.
——, from zinc ores.—Ridge, H. M.
Sulphur-bearing deposits, formation of.—Toso, P., 2 & 3.
——, salts.—Cesàro, G., 2; Zambonini, F., 6.
Sulphur Springs (Arkansas).—Siebenthal, C. E., 1.
Sulphurous waters, Pyrenees.—Garrigou, F., 1.
Sultan R. (Washington).—Marshall, R. B., 6.
Sultan-Uis-Dagh (Turkestan).—Preobrajensky, J., 4.

Sumatra (E. Indies).—Brouwer, H. A., 1 & 3; Douvillé, H., 10; Hartmann, E.; Sarasin, P., 1; Tobler, A., 1 & 2; Zwierzycki, J., 1.
——, gold & silver ores.—Caron, M. H.,; Hœvig, P., 1.
Sumbawa I. (E. Indies).—Brouwer, H. A., 4; Van Rheden, J. J. P.
Summerfield Quadrangle (Ohio).—Condit, D. D., 2.
Sun R. (Montana).—Stebinger, E., 4.
Sunda Strait (E. Indies).—Van Es, L. J. C., *fil.*, 2.
Sundown (Queensland).—Reid, J. H., 2 & 3.
Sundvik (Sweden).—Madsen, V., 4.
Sungei Pagu & Sungei Tuboh (Sumatra).—Hœvig, P., 3.
Sunlight, polarisation of.—Smith, W. S. T.
Sunningdale (Surrey).—Salis, R. F. de.
Sunshine (Wyoming).—Moody, C. L., 3.
Superior, Lake (Canada).—Keyes, C. R., 4; Schaller, W. T., 1.
Surcula.—Cipolla, F.; Cossmann, M., 1; Dickerson, R. E., 5, 6 & 9; Marshall, P., 8 & 13; Martin, K.; Waring, C. A.
Surface changes, recent, Kent & Surrey.—Dewey, H., 2.
—— deposits, N. Germany.—Wahnschaffe, F.
—— ——, Tiree I.—Provan, D.
Surigao, Prov. (Philippine Is.)—Pratt, W. E., 11.
Surrey.—Cox, A. H., 2, 3 & 6; Dewey, H., 2 & 3; Dibley, G. E., 1; Withers, T. H., 1; Young, G. W., 1, 3, 4 & 6.
Surveys.—*See* Geological Survey.
Surveying, underground.—Gonzalez, P.
Sus.—Hinton, M. A. C., 2; Matsumoto, H., 2 & 3; Pavlow, M., 1; Suschkina-Popowa, N.
Susquehanna R. (Pennsylvania).—Matthews, E. B.
Sussex.—Maddock, H. E.
Sustenodactylus.—Lull, R. S., 3.
Sutcliffe, W. H., *Obit.*—*See* Weiss, F. E.
Sutherlandshire.—Horne, J., 3.
Sutton, W. J., *Obit.*—*See* Robertson, W. F., 4.
Sutton area (Ontario).—Johnston, W. A., 6.
Suture, facial, of Trilobites.—Swinnerton, H. H., 3.
Sutures, Ammonoidea, delineation of. —Coëmmè, S.; Nicolesco, C., 3.
Suzuyama (Japan).—Kato, T., 2.
Svanberg, L. F., *Biogr.*—*See* Sœderbaum, H. G.
Svealand (Sweden).—Gavelin, A., 6.
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——, Hertfordshire.—Whitaker, W., 2.
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Swan Hills (Alberta).—Allan, J. A., 5.
Swan R. Valley (Manitoba).—Johnston, W. A., 10.
Swastika area (Ontario).—Burrows, A. G., 5.
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Sweden.—Geijer, P., 3; Hedstrœm, H., 1–5; Hœgbom, A. G., 4; Holmquist, P. J., 2; Nielsen, K. B., 5; Sahlstrœm, K. E., 1–3; Sernander, R., 1.
——, glaciation. — Bodman, G.; Eriksson, K.; Frœdin, G., 1, 2 & 6; Geer, S. de, 1, 3 & 5–7; Geijer, P., 6; Gustafsson, J. P.; Hadding, A., 4; Hœgbom, B., 1 & 5; Horne, J., 6; Sandegren, R., 2–5.
——, minerals & ore deposits.—Flink, G., 1–7; Geijer, P., 1; Igelstrœm, L. J.; Lindroth, G. T., 1–3; Stansfield, A., 1.
——, post-Glacial deposits.—Post, L. von, 1–8.
——, radioactivity of waters in.—Sahlbom, N., 1.
——, salt in spring waters of.—Richert, J. G., 2.
——, West coast of.—Antevs, E., 9.
Switzerland.—Billwiller, R.; Heim, Arn., 2–4; Stehlin, H. G., 1 & 2; Weber, J.
——, Bibliography.—Sarasin, C., 2, 4 & 5.
——, bituminous & carbonaceous beds in.—Girard, R. de; Schlæpfer, P.
——, Geological Survey.—Aeppli, A.
——, Jurassic–Cretaceous seas in.—Rollier, L., 9.
——, lake & river basins.—Collet, L. W., 2–11; Preller, C. S. du R., 1 & 2.
——, petrographic provinces in.—Niggli, P., 3.
——, Pleistocene flora.—Nathorst, A. G., 7.
—— (Central & Eastern).—Arbenz, P., 2; Stehlin, H. G., 3.
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Sychnodymite.—Zambonini, F., 6.
Sycopteron.—Bolton, H., 3; Tillyard, R. J., 9.
Sycum.—Greco, B., 3.
Sydney (N. S. Wales).—Bavay, A.; Harper, L. F., 1; Tillyard, R. J., 10.
Syenite, Ontario.—Foye, W. G., 1.
——, Portugal.—Lacroix, A., 40.
——, Virginia.—Watson, T. L., 5.
——, copper sulphides in.—McLaughlin, D. H., 1.

Syenite-porphyry.—Geijer, P., 4.
Sylvan Beach (New York).—Knight, N., 1.
Sylvilagus & *Symbas*.—Hay, O. P., 1.
Symbols, in mapping.—Woodruff, E. G., 3.
Symplesite & Synadelphite.—Doelter, C., 1.
Synaptophyllum.—Williams, M. Y., 11.
Synclinal, Eifel.—Fourmarier, P., 7.
——, Morocco (W.).—Russo, P., 2.
——, Senonian, Provence.—Repelin, J., 2.
——, Urville (Calvados).—Kerforne, F., 1.
Synerocrinus.—Wright, J., *fil.*, 2.
Synodontis.—Fourtau, R., 5.
Syntrophia.—Mansuy, H., 3.
Syria.—Blanckenhorn, M.; Hussakof, L., 4.
Syringopora.—Mansuy, H., 1; Vaughan, A., 1; Williams, M. Y., 11.
Syringothyris.—Diener, C.; Garwood, E. J., 1; Thomson, J. A., 16; Vaughan, A., 1; Weller, S., 1.
Syrnola.—Cerulli-Irelli, S., 1; Cossmann, M., 1.
Sysserskaya-Datcha dist. (Russia).—Sigg, H., 1.
Syzygophyllia.—Vaughan, T. W., 12.
Sze-Chuan, Prov. (China).—Matsumoto, H., 1; Way, H. W. L.

Taal, volcano (Philippine Is.).—Heise, G. W., 6.
Tables, physical.—Fowle, F. E.
Tabulipora.—Macnair, P., 8.
Taconic system.—Schuchert, C., 17.
Tactite.—Hess, F. L., 3.
Tadasa (Mysore).—Balaji Rao, B., 2.
Tadla (W. Morocco).—Russo, P., 2.
Tœniaster.—Schuchert, C., 2.
Tœniopteris.—Walkom, A. B., 2, 4, 5 & 7; Wieland, G. R., 1.
Tœnioxylon.—Berry, E. W., 18.
Tœniurites.—Cockerell, T. D. A., 20.
Tafeljura (Switzerland).—Vosseler, P.
Tafna (Algeria).—Dalloni, M., 2.
Tagus Valley (Portugal).—Roman, F., 2.
Tahiti I. (Pacific).—Lacroix, A., 37; Marshall, P., 1.
Taia.—Annandale, N., 1.
Taimur I. (Siberia).—Backlund, H., 3.
Takhini (Yukon Terr.).—Cairnes, D. D., 8.
Talarocrinus.—Wilson, H. E.
Talbot (Victoria).—Whitelaw, H. S., 2.
Talc, Avigliana (Piedmont).—Lincio, G., 3.
——, Gt. Britain.—Strahan, Sir A., 14.
——, New Zealand.—Morgan, P. G., 6.
Talc, production of.—Diller, J. S., 5.
Talgai skull.—Anon., 101; Smith, S. A.
Talimbangan R. (Celebes).—Hœvig, P., 2.
Tallangalook (Victoria).—Dunn, E. J., 10.
‘Talpargi’ springs, Mysore.—Sen, A. M., 1.
Taltson R. (Canada).—Camsell, C., 3.
Talus cones, formed by avalanches.—Jaccard, F.
—— deposits, Norway.—Wråk, W.
—— ——, Switzerland.—Gerber, E., 2; Jenny, F., 2.
Tamaulipas, State (Mexico).—Ibarra, J., 6; Ordoñez, E., 5.
Tamir Valley (Mongolia).—Pælsi, S.
Tamlelt, Plateau (Algeria).—Dollé, L., 1; Rey, F.
Tammela (Finland).—Mækinen, E., 1.
Tammerfors (Finland).—Sederholm, J. J., 1.
Tampa (Florida).—Dall, W. H., 2 & 6.
Tampico dist. (Mexico).—Dumble, E. T., 7; Golyer, E. de, 1.
Tamworth dist. (N. S. Wales).—Benson, W. N., 3; Chapman, F., 26.
Tanami (N. Terr., S. Australia).—Jensen, H. I., 3.
Tanana Region (Alaska).—Ellsworth, C. E., 1.
Tancredia.—Fucini, A.
Tanganyika-Nile Rift Valley.—Holmes, A., 7; Stigand, C. H.
Tanjil gold-field (Victoria).—Murray, R. A. F.
Tankuijo (Mexico).—Wilson, E. M., 2.
Tantalite, Rhodesia.—Zealley, A. E. V., 4.
Tantalum minerals, Madagascar.—Waites, T. P.
—— ——, analysis of.—Moir, J., 1.
Tapes.—Cossmann, M., 8; Newton, R. B., 1; Spitz, A., 1.
Tapinocephalus.—Broom, R., 5.
Tapiolite.—Simpson, E. S., 4.
Taradale (Victoria).—Skeats, E. W., 2.
Taranaki (N.Z.).—Donovan, W.; *see also* New Zealand, 3.
Taranakite.—Doelter, C., 1.
Tarentaise (France).—Kilian, W., 15.
Target Gully, Oamaru (N.Z.).—Marshall, P., 9.
Tarija (Bolivia).—Sefve, I., 2.
Tarphyceras.—Reed, F. R. C., 3.
Tarsodactylus.—Lull, R. S., 3.
Tarsus, of Amphibia.—Moodie, R. L., 2.
Tarumai, volcano (Japan).—Kôzu, S., 2; Simotomai, H., 2.
Tasmania.—Benson, W. N., 8; Chapman, F., 29; Hull, A. F. B.
——, coal-field.—Gould, C.

Tasmania, minerals & ore deposits.—Boyd, A. A.; Conder, H., 1 & 2; Hills, L., 1–6; Moore, M. S.; Twelvetrees, W. H., 1–12; *see also* TASMANIA, 1–6.
Tasmanite Spore beds, Tasmania.—Dun, W. S., 1.
Taso, I. of (Ægean Sea).—Comucci, P., 5.
TASSIN, W., *Obit.*—*See* Anon., 86.
Taunus Mts. (Germany).—Kegel, W.
Taurinæ, origin of, in Roumania.—Cardas, A.
Tavistock dist. (Devon).—Bawden, M.
Tavoy District (Burma).—Brown, J. C., 9 & 11; Campbell, J. M., 3; Heron, A. M., 3; Jones, W. R., 5; Maxwell-Lefroy, E.
Taxidea.—Butterworth, E. M.
Taxites.—Walkom, A. B., 4.
Taxodium.—Baumberger, E., 2; Nathorst, A. G., 1; Smith, W. S., 2.
Taxoxylon.—Stopes, M. C., 2.
Taxus.—Colani, M.
Tay Valley (Scotland).—Coates, H.
Tayassu.—Hay, O. P., 1.
Tayeh (China).—Wang, C. Y.
Taza, Trouée de (N. Morocco).—Gentil, L., 6.
Tazin R. (N.W. Canada).—Camsell, C., 3.
Te Kuiti dist. (N.Z.).—Henderson, J., 5.
Tecalitlan Valley (Mexico).—Paredes, T., 3.
Tecoma.—Berry, E. W., 5.
Tectaplica.—Wade, B., 2.
Tectonic valleys, Savoy.—Girardin, P., 6.
Tectonics, experimental.—Reichlin, N.
Tectura.—Cerulli-Irelli, S., 2.
Tecturidæ, Pliocene.—Cerulli-Irelli, S., 2.
Tees R. (Durham).—Fawcett, C. B., 1.
Teeth, of Anthropoids.—Gregory, W. K., 5.
——, of Carnivora.—Neuville, H., 1.
——, of *Dissopsalis.*—Pilgrim, G. E., 2.
——, of Elasmobranchs.—Stefano, G. de, 5.
——, of Elephants.—Stefanescu, S., 1, 2 & 5–9; Stefano, G. de, 3.
——, of Mylodont Sloths.—Stock, C., 1 & 2.
——, of *Nothodectes.*—Matthew, W. D., 8.
——, of Tragulidæ.—Pilgrim, G. E., 7.
Tegula.—Clark, B. L., 1; Dall, W. H., 2; Nomland, J. O., 5 & 6.
Tegulifera.—Stoyanow, A.
Tegulithyris.—Buckman, S. S., 4.
Tehachapi Pass (California).—Buwalda, J. P., 4.
Tehuantepec, Isthmus of (Mexico).—Hartley, B.
Teinostoma.—Chapman, F., 16; Dall, W. H., 5; Martin, K.
Tejon Group, California.—Dickerson, R. E., 1, 5, 6 & 12; Waring, C. A.
—— Hills (California).—Merriam, J. C., 2 & 9.
Tektite, British Borneo.—Mueller, F. P.
——, Tasmania.—Hills, L., 4.
Telaga, Lake (Java).—Wolvekamp, H.
Telangium.—Arber, E. A. N., 8.
Teleiocrinus.—Wilson, H. E.
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Telephus.—Isberg, O., 2.
Telescopium & *Teliostoma.*—Dainelli, G.
Telkwa Valley (B.C.).—Dolmage, V., 2; MacKenzie, J. D., 8.
Telleria.—Mansuy, H., 2.
Tellian Mts. (Algeria).—Dalloni, M., 5 & 8–10.
Tellina.—Anderson, F. M.; Clark, B. L., 1 & 5; Cossmann, M., 1 & 8; Dall, W. H., 2; Dickerson, R. E., 5, 6 & 9; Greco, B., 4; Marshall, P., 13; Martin, K.; Newton, R. B., 1 & 6; Ravn, J. P. J., 5; Spitz, A., 1.
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Tellurium, production of.—Hess, F. L., 2.
Telmatherium.—Gregory, W. K., 5; Pilgrim, G. E., 9.
Telmatornis.—Shufeldt, R. W., 2.
Temascaltepec dist. (Mexico).—Galvez, V., 4.
Temblor Basin (California).—Anderson, F. M.
Temnodiscus.—Chapman, F., 6.
Temperature, continentality &.—Brooks, C. E. P., 1 & 2.
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——, Loch Earn.—Wedderburn, E. M.
——, Mexican oil-fields.—Golyer, E. de, 3.
——, Simplon tunnel.—Schardt, H., 3.
——, Spluga tunnel.—Vercelli, F., 1.
——, abyssal.—Clark, A. H., 3 & 4.
——, in deep mines & borings.—Garforth, Sir W.; Verzat,—; Walker, G. B., 2.
——, increase of, with depth.—Boussinesq, J., 2 & 5.
——, marine.—Bruce, W. S.
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——, solubility & fusion at high.—Morey, G. W., 2.
——, in zones of chalcocitisation.—Emmons, W. H., I.

Tempskya.—Stopes, M. C., 2.
Tendaguru Formation, E. Africa.—Schuchert, C., 16.
Teneriffe (Canary Is.).—Navarro, L. F., 3 & 4.
Tennessee (U.S.A.).—Dunbar, C. O., 2; Schroeder, R. A.; Wade, B., 1–3.
——, minerals.—Barr, J. A., 1 & 2; Coy, H. A.; Gordon, C. H.; Taylor, J. H.
Tenorite.—Ponte, G., 2.
Tentaculites.—Hede, J. E., 3; Williams, H. S., 2; Williams, M. Y., 11.
Tephrite, Auvergne.—Lacroix, A., 47.
——, Bohemia.—Scheit, A.
Tephrocyon.—Merriam, J. C., 7 & 15.
Tephroite.—Flink, G., 4.
Tequesquipan (Mexico).—Galvez, V., 4.
Tequesquite, Mexico.—Flores, T., 4.
Terebella.—Bather, F. A., 20; Ravn, J. P. J., 1.
Terebellum.—Douvillé, H., 22; Martin, K.
Terebra.—Bongo, F., 1; Chapman, F., 16; Dall, W. H., 2; Martin, K.; Newton, R. B., 1; Nœrregaard, E. M., 1.
Terebratella.—Chapman, F., 16; Ravn, J. P. J., 2; Thomson, J. A., 4, 5 & 8.
Terebratellidæ, classification.—Thomson, J. A., 6.
Terebratula.—Buckman, S. S., 4; Jackson, J. W., 3; Krenkel, E.; Morgan, J. de, 2; Newton, R. B., 1 & 9; Percival, F. G., 1; Ravn, J. P. J., 2; Thomson, J. A., 8; Trechmann, C. T., 2.
Terebratulacea, morphology.—Thomson, J. A., 1.
Terebratulidæ, Jurassic.—Rollier, L., 8.
Terebratulina.—Chapman, F., 16.
Terebratuloid shells, punctation of.—Percival, F. G., 1.
Terebratuloidea.—Mansuy, H., 2.
Teredina.—Cossmann, M., 1.
Teredo.—Cossmann, M., 8; Martin, K.; Morgan, J. de, 1.
Terminology, of brachiopoda.—Buckman, S. S., 2.
Termopsis.—Cockerell, T. D. A., 9.
Ternera (Chile).—Brueggen, J., 2.
Terquemia.—Mansuy, H., 1.
'Terra rossa,' origin of.—Blanck, E., 2; Manasse, E., 2; Stremme, H., 3.
Terraces, Alps.—Ludwig, A., 1.
——, Connecticut.—Cleland, H. F., 1; Hatch, L.
——, Crayford (Kent).—Chandler, R. H., 5.
——, Lombardy.—Patrini, P., 2 & 3.
——, New Zealand.—Cotton, C. A., 7.
Terraces, Norway.—D——, C.; Danielsen, D., 1; Holmsen, G., 5 & 9; Rekstad, J., 5; Reusch, H., 11 & 13.
——, Rhone Basin.—Lamothe, L. de, 2.
——, Somme Valley.—Commont, V., 5–7.
——, Sweden.—Bobeck, O.
——, Thames Valley.—Dewey, H., 7; Smith, R. A., 2–4.
——, in arid regions.—Keyes, C. R., 8.
Terramesnil (Somme).—Commont, V. 4.
Tertiary, Africa (N.).—Joleaud, L., 3.
——, Alaska.—Pogue, J. E., 1.
——, Algeria.—Dalloni, M., 1, 5, 7, 8 & 10.
——, America —Canu, F., 10, 11 & 13.
——. —— (Equatorial).—Berry, E. W., 16.
——, Aquitanian Gulf.—Douvillé, H., 25.
——, Argentina.—Ameghino, C., 1 & 2.
——, Australia.—Gregory, J. W., 12; Newton, R. B., 4.
——, —— (S.E.).—Chapman, F., 11.
——, Bernina Alps.—Staub, R., 2 & 5.
——, British N. Borneo.—Yabe, H., 7.
——, California.—Dickerson, R. E., 1–6 & 8–12; English, W. A., 1; Merriam, J. C., 2, 5, 6, 8, 9, 14 & 15; Nomland, J. O., 1–6.
——, Catalonia.—Faura, M.
——, Clyde Basin.—Tyrrell, G. W., 12.
——, Congo Basin.—Dollo, L.
——, Devon & Cornwall.—Lowe, H. J., 4.
——, Egypt.—Gregorio, A. de, 6; Hume, W. F., 3; Stefanini, G., 5.
——, Ellesmere Land.—Nathorst, A. G., 1.
——, Florida.—Sellards, E. H., 1, 5 & 10.
——, France (S.).—Cottreau, J., 1; Priem, F., 1, 2, 4 & 5.
——, Garo Hills (India).—Pinfold, E. S., 2.
——, Greenland (E.).—Henriksen, K. L.
——, India (W.).—Das-Gupta, H. C., 3.
——, Isle of Mull.—McLintock, W. F. P.
——, Italy.—Galdi, B.; Stofano, G. de, 6.
——, Japan.—Hayasaka, I., 1; Koiwai, K.; Yabe, H., 6.
——, Java.—Cotter, G. de P., 2; Van Es, L. J. C., *fil.*, 1.
——, Lombardy.—Patrini, P., 3.
——, Mediterranean Basin.—Savornin, J., 1.

Tertiary, Mexico.—Dickerson, R. E., 13 & 14; Dumble, E. T., 2 & 3.
——, Missouri Basin (Upper).—Bauer, C. M., 2.
——, Mozambique.—Holmes, A., 5.
——, Nevada.—Buwalda, J. P., 2; Merriam, J. C., 1 & 7.
——, New Guinea.—Newton, R. B., 5, 8 & 10.
——, New Mexico & Wyoming.—Cockerell, T. D. A., 1 & 3.
——, New Russia.—Pavlow, M., 1 & 2.
——, New Zealand.—Gudex, M. C.; Marshall, P., 2, 4–10 & 13; Morgan, P. G., 2; Park, J., 3 & 9; Speight, R., 6 & 7; Thomson, J. A., 7 & 18.
——, N. America.—Dice, L. R.; Gardner, J. A.; Osborn, H. F., 10.
——, Oahu I. (Hawaii).—Hitchcock, C. H.
——, Oregon.—Merriam, J. C., 10 & 16.
——, Pacific Coast, U.S.A.—Packard, E. L., 2.
——, Panama.—Berry, E. W., 18; Canu, F., 13; Cushman, J. A., 1 & 2; Jackson, R. T.; MacDonald D. F., 2; Pilsbry, H. A., 2; Rathbun, M. J., 4; Vaughan, T. W., 12.
——, Papua.—Chapman, F., 25.
——, Paris Basin.—Dollot, A., 1–9.
——, Patagonia.—Windhausen, A., 1.
——, Porto Rico.—Maury, C. J., 3.
——, Portugal.—Roman, F., 2.
——, Queensland.—Ball, L. C., 4 & 5; Tillyard, R. J., 1.
——, Rhone Basin.—Lambert, J., 3.
——, Russia.—Chirvinski, P. M., 2.
——, Sardinia.—Deprat, J., 1.
——, Savoy.—Douvillé, H., 20.
——, Sea of Marmora Basin.—Arabu, N., 1–5.
——, Sicily.—Checchia-Rispoli, G., 3.
——, S. Australia.—Howchin, W., 3, 4 & 8.
——, South Bute.—Smellie, W. R., 3 & 4.
——, Spain (S.).—Gentil, L., 13.
——, Spitsbergen.—Geer, G. de, 2; Nathorst, A. G., 5 & 8.
——, Sumatra.—Zwierzycki, J., 1.
——, Switzerland.—Baumberger, E., 2; Gutzwiller, A., 1 & 2; Stehlin, H. G., 1 & 2.
——, Tasmania.—Chapman, F., 29.
——, Texas.—Berry, E. W., 7; Dumble, E. T., 1.
——, Tonkin.—Colani, M.
——, Touraine.—Morgan, J. de, 1–3.
——, Umbria.—Lotti, B., 2; Principi, P., 1.
——, United States.—Clark, W. B., 3.
——, —— (Western).—Cockerell, T. D. A., 5.
——, Venetia.—Stefanini, G., 1.
——, Vermont.—Berry, E. W., 20.
Tertiary, Victoria.—Chapman, F., 3, 4, 16 & 17; Hall, T. S., 2; Herman, H., 2; Mahony, D. J., 1; Patton, R. T.; Pritchard, G. B.; Skeats, E. W., 4; Summers, H. S.
——, Washington.—Weaver, C. E., 1–3 & 5.
——, West Indies.—Douvillé, H., 5 & 24; Matthew, W. D., 2.
——, classification.—Dawkins, Sir W. B., 1.
——: *See also* Eocene, &c.
Tertiary coals.—Stevenson, J. J., 2.
—— earth movements.—Boswell, P. G. H., 3.
—— migrations of Mammalia.—Joleaud, L., 4–7.
—— plateau, N. Atlantic.—Hawkes, L., 2.
Tertiary–Cretaceous boundary, S. America.—Windhausen, A., 1.
Tertre (Belgium).—Delecourt, J.
Tertrema.—Wiman, C., 1 & 8.
Teruel (Spain).—Kindelan, V.
Teschia.—Reid, C., 6.
Teschenite, Ayrshire.—Tyrrell, G. W., 6.
Tessin *or* Ticino (Switzerland).—Andersson, E., 2; Frauenfelder, A.; Lautensach, H.; Stauffacher, J., 1.
Testen, Lake (Sweden).—Geer, S. de, 2.
Testudo.—Campana, D. del, 7; Hay, O. P., 8; Merriam, J. C., 15; Sellards, E. H., 5.
Tetiuxe dist. (Russia).—Nishihara, G. S., 2.
Teton coal-field (Idaho).—Woodruff, E. G., 1.
—— County (Montana).—Stebinger, E., 3.
—— Mts. (Wyoming).—Blackwelder, E., 2.
Tetonius.—Matthew, W. D., 14.
Tetrabelodon.—Barbour, E. H., 1 & 5; Buwalda, J. P., 1; Merriam, J. C., 6, 7, 10 & 15.
Tetracamera.—Branson, E. B., 5; Weller, S., 1.
Tetragoneura.—Meunier, F.
Tetragonites.—Yabe, H., 2.
Tetragraptus.—Hall, T. S., 1 & 4.
Tetrapoda, Permian.—Gregory, W. K., 6; Watson, D. M. S., 4.
——, pre-Jurassic, classification.—Watson, D. M. S., 7.
——, origin of the.—Gregory, W. K., 1.
Tetrarhynchia.—Buckman, S. S., 4.
Tetraster.—Schuchert, C., 2.
Texada I. (B.C.).—Brewer, W. M., 12; McConnell, R. G., 1.
Texas (U.S.A.).—Berry, E. W., 7; Dumble, E. T., 1, 2 & 6; Goldman, M. I.; Hay, O. P., 5; Lull, R. S., 1; Shuler, E. W., 2; Troxell, E. L., 1 & 2; Watson, D. M. S., 6; Williston, S. W., 6.

Texas, clay deposits.—Ries, H., 5.

——, minerals & ore deposits.—Burchard, E. F., 1; Phillips, W. B., 1–4; Richard, L. M.; Udden, J. A., 3 & 4.

——, oil & gas.—Chautard, J.; Fuller, M. L., 3; Gardner, J. H., 2 & 3; Matson, G. C., 2; Matteson, W. G., 2; Shaw, E. W., 15; Wegemann, C. H., 6 & 7.

——, production of metals.—Henderson, C. W., 1.

——, salt deposits.—Norton, E. G.

——, water-supply.—Deussen, A., 1 & 2.

Texcoco, Lake (Mexico).—Cayeux, L., 1; Flores, T., 4.

Textularia.—Chapman, F., 18; Cushman, J. A., 1; Newton, R. B., 5; Spitz, A., 1; Udden, J. A., 3.

Teyde, volcano (Teneriffe).—Navarro L. F., 3 & 4.

Thais.—Anderson, F. M.; Clark, B. L., 1 & 5.

Thal (Tyrol).—Tanton, T. L., 1.

Thalamopora.—Douvillé, H., 4.

Thalamoporella.—Canu, F., 4.

Thalenite.—Doelter, C., 2; Flink, G., 4.

Thaleops.—Slocom, A. W.

Thalictrum.—Reid, C., 6.

Thallium, in volcanic exhalations.—Brun, A., 4.

Thames R., mud deposits of the.—Leach, S. W.

Thames Valley.—Deeley, R. M., 3; Dewey, H., 7; Monckton, H. W., 2; Smith, R. A., 2–4.

Thamnastræa.—Nomland, J. O., 1.

Thamniscus.—Diener, C.

Thanetian, Aisne Valley.—Charpiat, R., 11.

——, Marne Valley.—Dollfus, G. F., 2.

Thât-khé (Tonkin).—Giraud, J.

Thaumasite.—Flink, G., 5; Graham, R. P. D., 4; Schaller, W. T., 3.

Thaumastoplax.—Rathbun, M. J., 4.

Thaumatosaurus.—Brandes, T.

Thaynes Limestone, Idaho.—Mansfield, G. R., 3.

Thebes (Greece).—Eginitis, D., 1 & 5; Goulandris, E., 2.

Thecidea.—Morgan, J. de, 2.

Thecidellina.—Thomson, J. A., 3.

Thecodontia.—Haughton, S. H., 1.

Therapsida.—Broom, R., 6; Haughton, S. H., 6; Watson, D. M. S., 3.

Thermal springs, Alberta.—Elworthy, R. T., 1.

—— ——, Argentina.—Ducloux, E. H., 2.

—— ——, Basses-Alpes. — Zurcher, P., 1.

—— ——, Bombay.—Mann, H. H., 2; Steichen, A.

—— ——, Monghyr (India).—Schulten, C.

Thermal springs, Vancouver (B.C.).—Clapp, C. H., 3.

—— ——, utilisation of.—Gabrié, R. M.

Therocephalia.—Haughton, S. H., 1.

Theromorpha, Permo-Carboniferous.—Williston, S. W., 3 & 5.

Theronia.—Cockerell, T. D. A., 22.

Theropleura.—Broom, R., 3; Watson, D. M. S., 5.

Thersitea.—Savornin, J., 1.

Therwil—Reinach section (Switzerland).—Jenny, F., 1.

Thescelosaurus.—Gilmore, C. W., 5.

Thetford (Norfolk).—Hewitt, H. D., 1.

Thetford Lake dist. (Quebec).—Graham, R. P. D., 1; Harvie, R., 3; Knox, J. K.

Thieu (Belgium).—Cornet, J., 3.

Thinnfeldia.—Antevs, E., 2; Walkom, A. B., 2.

Thistle Creek (Yukon Terr.).—Cairnes, D. D., 7 & 10.

Thlœodon.—Matthew, W. D., 3.

Thlipsura.—Hede, J. E., 3.

Tholiasterella.—Walcott, C. D., 7.

Thomasites.—Greco, B., 2.

Thompson coal-field (Utah).—Clark, F. R., 1.

Thomsonite.—Riva, P.

Thones (Haute-Savoie).—Douvillé, H., 20.

Thorianite.—Lacroix, A., 3; Wellington, S. N.

Thorite.—Wellington, S. N.

——, density of lead from.—Soddy, F., 3.

Thorium.—Holmes, A., 17; Kithil, K. L.

Thortveitite.—Doelter, C., 2.

Thousand Creeks (Nevada).—Butterworth, E. M.

Thrace.—Arabu, N., 2.

Thracia.—Clark, B. L., 5; Cossmann, M., 8; Nomland, J. O., 5.

Thrombolite.—Doelter, C., 1.

Thrust-faults, Utah.—Butler, B. S., 4.

Thrust-plane, sub-Himalayan.—Middlemiss, C. S., 3.

Thryptacodon.—Matthew, W. D., 11.

Thuin (Belgium).—Anthoine, R., 4.

Thulite.—Comucci, P., 3.

Thunder Bay dist. (Ontario).—Burrows, A. G., 1.

Thurgau (Switzerland).—Engeli, J.

Thuringite.—Larsen, E. S., 3.

Thurman-Wilson fault, Iowa.—Tilton, J. L.

Thursophyton.—Kolderup, C. F., 6; Nathorst, A. G., 2.

Thylacoleo.—Etheridge, R., *fil.*, 7.

Thysanophyllum.—Garwood, E. J., 1; Smith, S., 1.

Thysanophora.—Cockerell, T. D. A., 3.

Thysanus.—Vaughan, T. W., 12.

Tibesti (Sudan).—Lacroix, A., 75, 77 & 78.
Tibet (Central).—Douvillé, H., 22.
—— (Western).—Parona, C. F., 9.
Ticino (Switzerland).—*See* Tessin.
Ticino R. Basin (Italy).—Patrini, P., 1.
Tidal action, distortion caused by.—Jeans, J. H., 1.
—— analysis, apparatus for.—Brown, E. W.
—— lands.—Carey, A. E.
—— load, deflection of the vertical &.—Lamb, H.; Terazawa, K.
—— wave, Nova Scotia.—McIntosh, D. S., 2.
—— ——, on off-side of Earth from the Moon.—Hull, E.
TIDDEMAN, R. H., *Obit.*—*See* Anon., 87; Harker, A., 6; & Sheppard, T., 12.
Tides, in Adriatic.—Marchi, L. de, 2; Oddone, E., 2.
——, causes of the.—Barlow, E.
——, electric, in soil.—Dechevrens, M., 1.
——, subterranean water &.—Bilham, E. G., 3; Carus-Wilson, C., 2; Heise, G. W., 5; Kewley, J.
Tidung (Dutch Borneo).—Munniks de Jongh, W. D.; Rutten, L., 3.
Tierra del Fuego.—Halle, T. G., 1; Millosevich, F., 1 & 2.
Tietea.—Derby, O. A.
Tilasite.—Doelter, C., 1.
Tilburstow Hill (Surrey).—Cox, A. H., 2 & 3.
Till, Illinois (S.).—Shaw, E. W., 10.
Tillite, New Hampshire.—Sayles, R. W., 1.
Tillodontidæ, Eocene.—Granger, W., 3.
Tilouanet (Algeria).—Joleaud, L., 8.
Timbuktu (Sahara).—Chudeau, R., 1 & 2; Gaubert, P., 7.
Time, geological.—Harker, A., 2.
——, post-Glacial.—Hotchkiss, W. G.
Timiskaming Co. (Quebec).—Wilson, M. E., 6.
—— Lake area (Ontario).—Collins, W. H., 1; Hume, G. S.; Williams, M. Y., 3.
Timor I. (E. Indies).—Brouwer, H. A., 8; Molengraaff, G. A. F., 1.
Tin, Argentina.—Keidel, H.
——, Australia.—Herman, H., 1.
——, Billiton I.—Groothoff, C. T.
——, Burma.—Brown, J. C., 9 & 11.
——, China.—Yung, M. B.
——, Cornwall.—Beringer, J. J., 1 & 2; Collins, J. H., 4; Nichols, H. G.; Pearce, R.; Reid, C., 3; Smith, G.; Whitley, D. G.
——, Devonshire.—Worth, R. H., 1.
——, Malay States.—Griffiths, H. D., 1; Jones, W. R., 4; Middleton, W. B.
——, Mexico.—*See* MEXICO, 6.
Tin, Nevada.—Knopf, A., 4.
——, N. S. Wales.—Godfrey, J. R.
——, Nigeria.—Canning, A. R.; MacDonald, D. J.; Nicholls, H. E.; Rumbold, W. R.; Thomas, W. E.
——, Northern Terr., S. Australia.—Gray, G. J., 2.
——, Queensland.—Reid, J. H., 2 & 3; Saint-Smith, E. C., 3.
——, Swaziland.—Garrard, J. J., 2.
——, Tasmania.—Conder, H., 2; Moore, M. S.; Twelvetrees, W. H., 4; Waterhouse, L. L., 1.
——, United States.—Bain, H. F., 1.
——, Victoria.—Whitelaw, O. A. L., 3.
——, Western Australia.—Blatchford, T., 1; Feldtmann, F. R., 1; Woodward, H. P., 1.
——, in meteorites.—Merrill, G. P., 14.
——, production of.—Hess, F. L., 1.
——, separation of, from tungsten.—Travers —.
Tin-bearing gravels, concentration of.—Richardson, W. W.
Tin deposits, origin of.—Jones, W. R., 2 & 3.
—— lodes, occurrence, &c.—Beyschlag, F.; Jones, W. R., 6.
—— ores, assay of.—Hutchin, H. W., 1 & 2; Matheson, A. M.; Mingaye, J. C. H., 2; Wraight, E. A.
—— ——, treatment of.—Stannard, O. J.
Tinetto (Gulf of Spezia).—Bassani, F., 1.
Tinguaite, Somaliland.—Manasse, E., 3.
Tinnalu (Mysore).—Venkataramaiya, B. N., 1.
Tintic dist. (Utah).—Crane, G. W.; Ford, W. E., 7; Lindgren, W., 3; Means, A. H., 2.
Tipula.—Cockerell, T. D. A., 14 & 20; Meunier, F.
Tiree I. (Scotland).—Provan, D.
Tirolite.—Doelter, C., 1.
Tirthahalli Taluk (Mysore).—Jayaram, B., 7.
Tissotia.—Greco, B., 2.
Titaniferous iron ores, Canada.—Stansfield, A., 3.
—— ——, Norway.—Foslie, S.
—— ——, microstructure of.—Warren, C. H., 2.
—— magnetite, Natal.—Du Toit, A. L., 9.
—— ——, Ontario.—Foye, W. G., 2.
—— ——, Minnesota.—Broderick, T. M., 2.
Titanite.—Bianchi, A., 1; Wherry, E. T., 9.; *see also* Sphene.
Titanium, in iron-sand, N.Z.—Donovan, W.
——, ores of.—*See* IMPERIAL INSTITUTE, 17.
—— production of.—Hess, F. L., 1.

Titanium, spectrum of.—Grammont, A. de, 2.
Titanium minerals, analysis of.—Moir, J., 1.
Titanoides.—Gidley, J. W., 2.
Titanotheridæ, Oligocene.—Osborn, H. F., 6.
Tithonian, Germany.—Schneid, T.
——, Sicily.—Gregorio, A. de, 5 & 6.
Titsey (Surrey).—Fagg, C. C., 1.
Titterstone Clee Hill (Shropshire).—Kidston, R., 4.
Tivela.—Clark, B. L., 1; Dickerson, R. E., 4 & 6; Nomland, J. O., 3.
Tjampaka (Borneo).—Krol, L. H.
Tji Hara (Java).—Ziegler, K. G. J.
Tlalpujahua (Mexico).—Luna, A.
Toften, Lake (Sweden).—Geer, S. de, 2.
Tolånga (Sweden).—Hede, J. E., 1.
Tolfa (Italy).—Lotti, B., 1.
Toluene, analysis of.—Harker, G.
Tomistoma.—Fourtau, R., 5; Sellards, E. H., 1 & 5.
Tomsk (Siberia).—Jakowleff, S. A.; Polénoff, B. C.
Tomuro, Mt. (Japan).—Matsumoto, H., 4.
Tonkin.—Anon., 111; Colani, M.; Deprat, J., 2, 3, 6–11, 14, 15 & 18; Giraud, J.; Mansuy, H., 1–4.
Tonopah (Nevada).—Spurr, J. E., 2.
Tooele Co. (Utah).—Kemp, J. F., 5.
Topaz.—Doelter, C., 2; Flink, G., 4.
——, as a rock constituent.—Scrivenor, J. B., 7.
——, origin of.—Jones, W. R., 3.
Topaz rock, Cornwall.—Colins, J. H., 5.
Torbanite.—Conacher, H. R. J.
Torbernite.—Bowen, N. L., 7; Hallimond, A. F., 2.
Torbrook (Nova Scotia).—Hayes, A. O., 3.
Töreboda dist. (Sweden).—Westergård, A. H., 2.
Torellella.—Braastad, J.
Torigoé (Japan).—Kôzu, S. 1.
Torinia.—Martin, K.
Torinosu Limestone, Japan.—Hayasaka, I., 2.
Toriseva, Lake (Finland).—Perkiœnoja, Y. J.
Tornatina.—Cossmann, M., 5; Waring, C. A.
Torneå (Finland).—Hackman, V., 3.
Tornidæ, Pliocene.—Cerulli-Irelli, S., 2.
Tornus.—Cerulli-Irelli, S., 2.
Torosaurus.—Lambe, L. M., 1.
Torrens Limestone, S. Australia.—Howchin, W., 2.
Torrent d'Anzin (Nord).—Gosselet, J., 5.
Torrenthorn (Switzerland).—Lugeon, M., 8.
Torridonean Conglomerate, Moine pebbles in.—Gregory, J. W., 6.

Tortonian, Italy.—Bongo, F., 1; Pelizzola, C., 1.
Tortugas, Is. (Gulf of Mexico).—McClendon, J. F.; Phillips, A. H., 3.
TOUCAS, A., *Obit.*—*See* Pervinquière, L.
Toucasia.—Douvillé, H., 2; Newton, R. B., 9.
Touraine (France).—Lecointre, G., 2; Morgan, J. de, 1–3.
Tourmaline.—Fersmann, A.; Flink, G., 4; Lacroix, A., 63; Sjœgren, H., 1.
——, in Alabama pegmatite.—Van Horn, F. R., 3.
——, in Eskdale granite.—Jones, T. A., 1.
——, Madagascar.—Ungemach, H., 1.
——, Mexico.—Wittich, E., 1.
——, Ontario.—Bruce, E. L., 5.
——, S. Africa.—Hall, A. L., 3.
——. *See also* Iochroite.
Tours d'Aï (Switzerland).—Jeannet, A., 1.
Tourtia, Belgium.—Cornet, J., 2.
Toxichnus.—Lull, R. S., 3.
Toxodon.—Ameghino, C., 1.
Toyajo (Japan).—Yabe, H., 2.
Trachodon.—Brown, B., 1; Gilmore, C. W., 2; Lambe, L. M., 6.
Trachodontidæ, Cretaceous.—Brown, B., 3.
Trachsellauenen (Switzerland).—Gerber, E., 1.
Trachyceras.—Mansuy, H., 1.
Trachy-dacite, Sardinia.—Serra, A., 2 & 4.
Trachydolerite.—Hibsch, J. E., 3.
Trachyderma.—Chapman, F., 9; Williams, H. S., 2.
Trachydomia.—Mansuy, H., 2.
Trachyte, Bohemia.—Becke, F., 4.
——, Italy.—Lotti, B., 1.
Trachytic rocks, Clyde Basin.—Tyrrell, G. W., 9.
Trachytriton.—Waring, C. A.
Tragelaphinæ, migrations of the.—Joleaud, L., 5.
Tragocerus.—Pavlow, M., 1.
Tragophylloceras.—Swinnerton, H. H. 4; Trueman, A. E., 2.
Tragulidæ, dentition of the.—Pilgrim, G. E., 7.
Trail, underplight &.—Deeley, R. M., 2.
Trails, Cambrian.—Burling, L. D., 4.
——, Crustacean & Annelid.—Bartrum, J. A., 4; Hœgbom, A. G., 5.
Trajanella.—Cossmann, M., 5.
Tralia.—Morgan, J. de, 3.
Transcontinental Ry. section (Quebec).—Bancroft, J. A., 2.
Transennella.—Anderson, F. M.
Transkei (S. Africa).—Du Toit, A. L., 6.
Transovula.—Cossmann, M., 1.

Transpiration, earthquakes & terrestrial.—Taramelli, T., 7.
Transportation, by icebergs.—Engeln, O. D. von, 2.
——, by running water.—Gilbert, G. K.; Muentz, A., 1 & 2.
Transvaal (S. Africa).—Brouwer, H. A., 5; Hall, A. L., 5; Hallimond, W. T.; Haughton, S. H., 4; Wybergh, W.
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Trap rocks, New York.—Newland, D. H., 2.
'Trap-shotten' gneiss.—Shand, S. J., 3.
Trapa.—Post, L. von, 4; Reid, C., 6.
Trapezium.—Cossmann, M., 8.
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Trefriw (Carnarvonshire).—Sherlock, R. L., 5.
Trelissick Basin (N.Z.).—Speight, R., 6.
Tremanotus.—Williams, M. Y., 11.
Trematis. —Reed, F. R. C., 4.
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Tremolite.—Schaller, W. T., 3.
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Tremotoichos.—Canu, F., 11.
Trent Valley (Ontario).—Johnston, W. A., 3.
Trentino (Italy).—Scalia, S., 3; Taramelli, T., 10.
Trenton Falls (New York).—Miller, W. J., 1.
Trepospira.—Girty, G. H., 1.
Trepostomata, morphology of the.—Cumings, E. R., 2.
Tretotoechus.—Oppliger, F.
Triænograptus.—Hall, T. S., 1.
Triænopus.—Lull, R. S., 3.
Triæschna.—Campion, H.
Trian (Cochin China).—Mansuy, H., 1.
Triarthrus.—Walcott, C. D., 9.
Trias, Alaska.—Martin, G. C., 1.
——, Alberta.—Lambe, L. M., 1 & 2.
——, Algeria.—Brives, A., 1; Dalloni, M., 12.
——, Arizona.—Mehl, M. G., 3.
——, Armenia.—Bonnet, P., 2.
Trias, Arran.—Gregory, J. W., 18; Tyrrell, G. W., 5.
——, Asia Minor.—Arabu, N., 8.
——, Belgian Congo.—Hussakof, L., 6; Leriche, M., 4.
——, British Columbia.—Clapp, C. H., 6.
——, California.—Smith, J. P.
——, Cheshire.—Greenwood, H. W., 4; Maidwell, F. T., 1; Rhodes, J. E. W., 1.
——, Connecticut.—Lull, R. S., 3.
——, Dumfriesshire.—Horne, J., 8.
——, Engadine (Upper).—Spitz, A., 3.
——, England.—Greenwood, H. W., 3; Sherlock, R. L., 6.
——, French Alps.—Boussac, J., 1.
——, Germany.—Schroeder, H.
——, Himalaya.—Bonnet, P., 2.
——, Italy.—Bassani, F., 1 & 2.
——, Lancashire.—Harris, A. W.; Wray, D. A., 2.
——, Laos States.—Mansuy, H., 1.
——, Leicestershire.—Horwood, A. R., 1.
——, Maritime Alps.—Maury, E., 2.
——, Morocco.—Gentil, L., 24.
——, New Mexico.—Huene, F. von, 1; Mehl, M. G., 3.
——, N. S. Wales.—Tillyard, R. J., 8.
——, New Zealand.—Bather, F. A., 7; Trechmann, C. T., 2.
——, Nottinghamshire. — Swinnerton, H. H., 2.
——, Nova Scotia.—Powers, S., 1 & 7.
——, Pennsylvania.—Jonas, A. I.; Sinclair, W. J., 3 & 4; Stose, G. W.; Wherry, E. T., 10.
——, Queensland.—Walkom, A. B., 1–3.
——, Sardinia.—Termier, P., 1.
——, Scotland.—Boswell, P. G. H., 8.
——, Spitsbergen.—Wiman, C., 1, 3, 4 & 6.
——, Switzerland.—Disler, C.; Heim, Arn., 2 & 3; Preiswerk, H., 1.
——, Trentino.—Scalia, S., 3.
——, United States (Western).—Tomlinson, C. W., 1.
——, Wyoming.—Mehl, M. G., 2.
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Triassolestes.—Tillyard, R. J., 4.
Triassopsyche.—Tillyard, R. J., 2.
Triassopsylla.—Tillyard, R. J., 8.
Tricephalopora.—Lang, W. D., 11.
Triceratops.—Lambe, L. M., 1.
Trichalcite.—Doelter, C., 1.
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Trichomyia.—Cockerell, T. D. A., 8.
Trichopitys.—Fucini, A.
Trichoptera, Triassic.—Tillyard, R. J., 2.

Trichorhynchia & *Trichothyris.*—Buckman, S. S., 4.
Trichotropis.—Harmer, F. W., 2.
Tridymite.—Ferguson, J. B., 2; Hawkes, L., 1; Lacroix, A., 35.
Trient Valley (Switzerland).—Meyer, J.
Trientalis.—Reid, C., 6.
Triforis.—Cossmann, M., 1; Dickerson, R. E., 5 & 9; Harmer, F. W., 2.
Trigeria.—Kegel, W.; Weller, S., 1.
Trigonarca.—Newton, R. B., 9.
Trigonia.—Chapman, F., 16; Cossmann, M., 5; Krenkel, E.; Newton, R. B., 9; Odhner, N. H., 2; Schwarz, E. H. L., 1; Trechmann, C. T., 5; Waring, C. A.; Yehara, S., 1.
Trigonicardia.—Dall, W. H., 2.
Trigonocarpus.—Wieland, G. R., 1.
Trigonodon.—Priem, F., 4.
Trigonodus.—Mansuy, H., 1.
Trigonograptus.—Jehu, T. J., 3.
Trigonostoma.—Bell, A., 5; Harmer, F. W., 2.
Trillina.—Chapman, F., 16.
Trilobita, Cambrian.—Walcott, C. D., 2, 5 & 12.
——, Carboniferous.—Mitchell, J., 1.
——, Ordovician.—Slocom, A. W.
——, Silurian.—Chapman, F., 5; Etheridge, R., *fil.*, 9 & 10; Mitchell, J., 2; Raymond, P. E., 4.
——, appendages of.—Calman, W. T.; Walcott, C. D., 9.
——, classification.—Raymond, P. E., 5; Swinnerton, H. H., 1.
——, development.—Tothill, J. D.
——, eyes of.—Isberg, O., 2; Ruedemann, R., 1.
——, facial suture of.—Swinnerton, H. H., 3.
Triloculina.—Cushman, J. A., 1.
Trimeraster.—Schuchert, C., 2.
Trimerella.—Williams, M. Y., 11.
Trimerite.—Flink, G., 4.
Trimerorhachis.—Gregory, W. K., 1; Williston, S. W., 2 & 4.
Trinacria.—Cossmann, M., 1.
Trinity Bay (Newfoundland).—Dale, N. C.
Trinucleus.—Mansuy, H., 4; Reed, F. R. C., 2.
—— beds, Sweden.—Sjœberg, S., 2.
Trionyx.—Matsumoto, H., 5.
Triphylite.—Wherry, E. T., 8.
Triplacidia.—Checchia-Rispoli, G., 12.
Triplecia.—Reed, F. R. C., 4.
Tripolis (N. Africa).—Checchia-Rispoli, G., 1 & 13; Gregorio, A. de, 7; Negri, G., 1; Parona, C. F., 2 & 3.
Triptoceras.—Trowbridge, A. C., 3.
Triptychia.—Dollfus, G. F., 5.
Tripukyite.—Doelter, C., 1.
Trirachodon.—Broom, R., 6.
Tristichopterus.—Watson, D. M. S., 11.
Tristomanthus.—Checchia-Rispoli, G., 11.
Trisulcus.—Lull, R. S., 3.
Tritomite.—Doelter, C., 2.
Triton.—Erasmo, G. d', 1.
Tritonalia.—Dall, W. H., 2.
Tritonidea.—Cossmann, M., 1; Martin, K.
Trituberculy, theory of.—Gregory, W. K., 5.
Tritylodon.—Broom, R., 2; Petronievics, B., 1.
Troad (Asia Minor).—Arabu, N., 1.
Trochammina.—Girty, G. H., 2; Smith, J., 1.
Trochidæ, Pliocene.—Cerulli-Irelli, S., 2.
Trochobolus.—Oppliger, F.
Trochoceras.—Mook, R. R.
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Trocholites.—Reed, F. R. C., 3.
Trochonerita.—Cossmann, M., 5.
Trochoseris.—Vaughan, T. W., 12.
Trochosuchus.—Broom, R., 5.
Trochurus.—Raymond, P. E., 4.
Trochus.—Cossmann, M., 5; Krenkel, E.; Parks, W. A., 2; Trechmann, C. T., 2; Vinassa de Regny, P., 3.
Trögerite.—Doelter, C., 1.
Trogontherium.—Newton, E. T., 2.
Tromometers.—Lumbier, M. M., 3 & 4.
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Tropidodiscus.—Williams, H. S., 2.
Tropidostoma.—Broom, R., 7.
Tropiorhynchia.—Buckman, S. S., 4.
Tropitidæ, Triassic.—Smith, J. P.
Troschelia.—Harmer, F. W., 2.
Trout Lake mining dist. (B.C.).—Emmens, N. W., 1 & 4.
Truckee beds, Nevada.—Buwalda, J. P., 1.
Truncatulina.—Chapman, F., 13 & 18; Cushman, J. A., 1.
Trygon.—Chapman, F., 3 & 16.
Trypanaxis.—Cossmann, M., 1.
Tryphon.—Cockerell, T. D. A., 22.
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Tscheffkinite, Madagascar.—Lacroix, A., 11; Ungemach, H., 1.
Tschernyschewia.—Stoyanow, A.
Tsetse-fly, fossil.—Cockerell, T. D. A 13 & 18.
Tsinania.—Walcott, C. D., 3.
Tsuga.—Antevs, E., 2.
Tsukinoki (Japan).—Matsumoto, H., 3.

Tuapeka dist. (N.Z.).—Marshall, P., 11.
Tubercles, of Holectypoida.—Hawkins, H. L., 3.
Tuberculopleura.—Mansuy, H., 2.
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——, Norway.—Œyen, P. A., 12 & 13.
——, Somme Valley.—Commont, V., 6 & 7.
——, Sweden.—Halle, T. G., 2 & 4; Sernander, R., 1; Tamm, O., 4.
Tuffs, Bad-Nauheim.—Schottler, W.
——, Crimea.—Chirvinski, P. N., 3.
——, Montpellier.—Braun-Blanquet, J.
——, N. S. Wales.—Aurousseau, M., 1.
——, Philippine Is.—King, A. E. W.
——, Rome, fossiliferous.—Meli, R., 5.
——, Somaliland.—Manasse, E., 3.
——, Styria.—Schadler, J.
——, banding of manganese in rhyolitic.—Tarr, W. A., 6.
——, microscopic characters.—Pirsson, L. V., 1.
Tulancingo dist. (Mexico).—Galvez, V., 1.
Tularosa Basin (New Mexico).—Meinzer, O. E., 5.
Tullstorp (Sweden).—Holst. N. O., 1.
Tully Limestone, N. America.—Grabau, A. W., 6.
Tumkur District (Mysore).—Balaji Rao, B., 3; Sen, A. M., 1.
Tumularia.—Robinson, W. I., 2.
Tunaberg (Sweden).—Zenzén, N., 3.
Tungabhadra R. (Mysore).—Balaji Rao, B., 1.
Tungsten, Alaska.—Bateman, A. M., 2.
——, Burma.—Brown, J. C., 11; Campbell, J. M., 3; Griffiths, H. D., 2 & 3; Maxwell-Lefroy, E.
——, Canada.—Camsell, C., 8.
——, Chile.—Ossa, I. D., 3.
——, Cornwall.—Collins, J. H., 4.
——, Gt. Britain.—Dewey, H., 9.
——, Idaho.—Goodrich, R. R.
——, Mexico.—Peña, M., 5.
——, New Brunswick.—Cairnes, D. D., 9.
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——, Western Australia.—Robertson, A. J.; *see also* Western Australia, 12.
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Turbonilla.—Cerulli-Irelli, S., 1; Chapman, F., 16; Dall, W. H., 2; Nœrregaard, E. M., 1.
Turbonitella.—Stefani, C. de, 4.
Turgite & Turite.—Spencer, L. J., 5.
Turin (Italy).—Malvano, G.
——, Collina de.—Zuffardi, P., 2.
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Turkey.—Dominian, L.; Edwards, G. M.
Turonian, Belgium.—Cornet, J., 2; Halet, F., 2.
——, France.—Lecointre, G., 2; Pruvost, P., 1.
Turquoise.—Doelter, C., 1.
Turrœa.—Reid, C., 6.
Turricula.—Cossmann, M., 1.
Turrilepas.—Withers, T. H., 2.
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Turris.—Anderson, F. M.; Clark, B. L., 1 & 5; Dall, W. H., 2; Dickerson, R. E., 5 & 6; Marshall, P., 8 & 13; Moody, C. L., 1; Newton, R. B., 1; Pilsbry, H. A., 3; Waring, C. A.
Turritella.—Anderson, F. M.; Dall, W. H., 2 & 5; Dickerson, R. E., 5 & 6; Greco, B., 3; Harmer, F. W., 2; Llueca, F. G.; Marshall, P., 8; Martin, K.; Newton, R. B., 11; Nœrregaard, E. M., 1; Nomland, J. O., 3, 5 & 6; Pilsbry, H. A., 3; Trechmann, C. T., 5; Waring, C. A.

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Tuscany (Italy).—Pieragnoli, L.; Preller, C. S. du R., 12.
Tutuila I. (Samoa).—Mayor, A. G., 3.
Tuutijärvi (Finland).—Hackman, V., 1.
Tuwa (Bombay).—Steichen, A.
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——, Ala & Manebach types of.—Sigg, H., 3.
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Two Mountains Co. (Quebec).—Gauthier, H., 1.
Tychius.—Wickham, H. F., 3.
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Tyne R. (England).—Haselhurst, S. R., 1; Merrick, E.
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Typothorax.—Huene, F. von, 1.
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Tyrol (Austria).—Tanton, T. L., 1.
Tyrone, Co. (Ireland).—Griffith, R.
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Tytherington (Gloucestershire).—Reynolds, S. H., 6.
Tyttenhanger (Herts.).—Williams, A. H.

U-shaped valleys, formation of.—Lane, A. C., 1.
Uca.—Rathbun, M. J., 4.
Ugo (Japan).—Matsumoto, H., 3.
Uintacrinus.—Clark, W. B., 3.
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Uintanius.—Matthew, W. D., 14.
Uintornis.—Shufeldt, R. W., 2.
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Ulmus.—Berry, E. W., 5; Penhallow, D. P.
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Umpqua R. Basin (Oregon).—Marshall, R. B., 12.
Umtali (S. Rhodesia).—Zealley, A. E. V., 7.
Uncinella.—Diener, C.
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Unconformity, East Kent.—Baker, H. A., 3.
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——, Carboniferous-Permian, Western America.—Lee, W. T., 4.
Unden, Lake (Sweden).—Muehlen, L. von zur.
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Underplight, trail &.—Deeley, R. M., 2.
Undina.—Vidal, L. M.; Woodward, A. S., 13.
Unicardium.—Cossmann, M., 5; Krenkel, E.; Spitz, A., 1.
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——, Pleistocene deposits.—Hay, O. P., 9.
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Upnor (Kent).—Andrews, C. W., 4.
Upsala (Sweden).—Gustafsson, J. P.; Hœgbom, A. G., 5; Meissner, O., 3; Svenonius, F., 5; Wiman, C., 10.
Uptonia.—Swinnerton, H. H., 4.
Urach (Swabia).—Walter, E.
Ural Mts. (Russia).—Duparc, L., 2; Preston, T. H.; Purington, C. W., 1 & 3; Sabot, R. C., 1; Sigg, H., 1; Turner, H. W., 2.
Uralite, Finland.—Mækinen, E., 3.
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Uranaster.—Spencer, W. K., 1 & 2.
Uranium, from carnotite.—Parsons, C. L.
——, production of.—Hess, F. L., 1.
Uranium ores, Madagascar.—Grossmann, C.; Waites, T. P.
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Uria.—Shufeldt, R. W., 2.
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Ursus.—Peach, B. N.
Urtica.—Reid, C., 6.
Uruguay (S. America).—Marstrander, R.
Urville (Calvados).—Kerforne, F., 1.
Usk (Monmouthshire).—Gardiner, C. I., 1 & 3.
Ussingite.—Doelter, C., 2.
Usu, volcano (Japan).—Ōinouye, Y., 1 & 3.
Utah (U.S.A.).—Anderson, G. E.; Dake, C. L., 4; Emery, W. B., 2; Gregory, H. E., 4 & 7; Kemp, J. F., 5; Thorpe, M. R.
——, coal-fields.—Clark, F. R., 1 & 2; Lewis, R. S.; Wegemann, C. H., 2.
——, minerals & ore deposits.—Atwood, W. W., 2; Beeson, J. J.; Butler, B. S., 2, 4 & 6; Carnahan, T. S.; Crane, G. W.; Forsman, O; Humes, J.; Jones, C. C.; Loughlin, G. F., 1 & 2; Lupton, C. T., 1 & 4; Means, A. H., 2; Robinson, H. M.; Van Horn, F. R., 1 & 4; Winchell, A. N., 1.
——, production of metals.—Heikes, V. C., 3.
Utö, I. of (Sweden).—Backlund, H., 5; Sjœgren, H., 1.
Uto, Mt. (Switzerland).—Heim, Alb., 1.
Uvigerina.—Cushman, J. A., 1.
Uxia.—Cossmann, M., 1.
Uzès-le-Duc (Algeria).—Dalloni, M., 10.

Vaca Muerta (Chile).—Prior, G. T., 3.
Vaccinium.—Sangiorgi, D., 2.
Vachons (Charente).—Coiffard, J.
Værlandet Is. (Norway).—Kolderup, C. F., 8.
Værmland (Sweden).—Post, L. von, 4, 5 & 8; Sandegren, H., 5; Svenonius, F., 2.
Vaginella.—Marshall, P., 13.
Vaginulina.—Chapman, F., 18.
Vaillantoonia.—Leriche, M., 6.
Val d'Ala (Italy).—Balzac, F., 3.
Val d'Anniviers (Switzerland).—Stauffacher, J., 2.
Val d'Aosta (Piedmont).—Balzac, F., 1; Novarese, V., 1 & 2.
Val Blegno (Switzerland).—Argand, E., 3.
Val di Cogne (Piedmont).—Delgrosso, M.
Val Crostolo (Italy).—Galdi, B.
Val Devero (Piedmont).—Bianchi, A., 1 & 2.
Val Faller (Switzerland).—Musy, M., 3.
Val Furva (Lombardy).—Mariani, E., 1.
Val d'Herens (Switzerland).—Dias, A.; Hiefleitner, G.
Val di Magra (Liguria).—Campana, D. del, 2.
Val Morobbia (Switzerland).—Stauffacher, J., 1.
Val Piora (Switzerland).—Krige, L. J.
Val Sabbia (Italy).—Bonomini, C., 1 & 2.

Val Sesia (Piedmont).—Franchi, S., 8.
Val Tellina (Lombardy).—Revelli, P.; Sangiorgi, D., 4.
Val Tresinaro (Italy).—Galdi, B.
Valais (Switzerland).—Dias, A.; Sarasin, C., 1 & 7.
Valanginian, Algeria.—Joleaud, L., 2.
——, S. France.—Kilian, W., 7.
——, Switzerland.—Heim, Alb., 2 & 7.
Valcieca (Italy).—Martinotti, A.
Valence (France).—Lamothe, L. de, 2.
Valencia d'Alcantara (Spain).—Blondel, —.
Valency-volumes, law of.—Barlow, W.
Valentine, R. L., *Obit.*—*See* Cole G. A. J., 6.
Valentinite.—Doelter, C., 1.
Valetta Alp (Switzerland).—Stauffacher, J., 1.
Valladares do Minho (Portugal).—Souza-Brandão, V., 7.
Vallarsa (Trentino).—Scalia, S., 3.
Valley (Washington).—Jenkins, O. P., 2.
Valley City (Utah).—Dake, C. L., 4.
Valley system, S. Scotland.—Gregory, J. W., 19.
Valleys, formation of U-shaped.—Lane, A. C., 1.
——, ramification of, in Alps.—Ludwig, A., 1.
——, tectonic, Savoy.—Girardin, P., 6.
Valvata.—Cossmann, M., 1; Robinson, W. I., 1.
Valvulina.—Benson, W. N., 6; Chapman, F., 26.
Van Hise, C. R., *Obit.*—*See* Chamberlin, T. C., 4; Holmquist, P. J., 5; & Rastall, R. H., 7.
Van Loon, C., *Obit.*—*See* Jongh, D. de.
Vanadic acid, Lake Superior.—Schaller, W. T., 1.
Vanadium, in carnotite.—Parsons, C. L.
——, in iron-sand, N.Z.—Donovan, W.
——, in mineral waters.—Bado, A. A., 1.
——, in sedimentary rocks.—Phillips, A. H., 3.
——, production of.—Hess, F. L., 1.
Vanadium ores, origin of.—Notestein, F. B.
Vancouver I. (B.C.).—Brewer, W. M., 12 & 13; Camsell, C., 11; Clapp, C. H., 1–4, 7 & 8; Cooke, H. C., 1; Dolmage, V., 1.
Vandeuil (Marne).—Charpiat, R., 5.
Vandyke (Queensland).—Richards, H. C., 4.
Vänern (Sweden).—Sandegren, R., 3.
Vanikoro.—Onetti, A.
Vanikoroia.—Martin, K.
Vanoise (France).—Girardin, P., 5.
Vanuxemella.—Walcott, C. D., 3 & 7.
Var, Dept. (France).—Guébhard, A., 4, 8 & 13; Zurcher, P., 2 & 3.
Vardar R. (Macedonia).—Faucher, D., 1 & 2.
Varese, Lago di (Lombardy).—Taramelli, T., 5.
Variamussium.—Paris, E. T.
Variolite, in Miocene conglomerates.—Kilian, W., 2.
Variscite.—Moschetti, L.; Schaller, W. T., 3.
Varisco, A., *Biogr.*—*See* Taramelli, T., 9.
Vascoceras.—Greco, B., 2.
Vassacyon.—Matthew, W. D., 11.
Vasseur, G., *Obit.*—*See* Blayac, J., 1; & Perrier, E., 1.
Vastenjaure, Lake (Sweden).—Frœdin, J., 2.
Vasum.—Dall, W. H., 2.
Vat, the (Aberdeenshire).—Bremner, A., 3.
Vatican, Hill (Rome).—Checchia-Rispoli, G., 20
Vaudreuil Co. (Quebec).—Picker, R. H.
Vaughan, A., *Obit.*—*See* Anon., 89; Reynolds, S. H., 4; & Woodward, A. S., 8.
Vaughania.—Garwood, E. J., 1.
Vaugnerite.—Lacroix, A., 45.
Vaujours (Seine-et-Oise).—Dollot, A., 6.
Vectia.—Stopes, M. C., 2.
Vega dist. (Norway).—Rekstad, J., 9.
Vegasite.—Knopf, A., 3.
Vegetation, ancient types of.—Turrill, W. B.
——, limits of, in Sweden.—Hamberg, A., 2.
Vein rocks, Röros (Norway).—Carstens, W., 2.
Veinlets, origin of.—Taber, S., 6.
Veins, argentiferous, Chile.—Whitehead, W. L., 4.
——, of asbestiform minerals, origin.—Taber, S., 2, 3 & 7.
——, auriferous, Bendigo.—Bateman, A. M., 3; Stillwell, F. L., 2 & 3; Taber, S., 5.
——, ——, Carinthia.—Penny, F. W.
——, ——, Ontario.—Burrows, A. G., 2.
——, cassiterite, formation.—Kato, T., 2.
——, water in.—Campbell, J. M., 4.
Velardeñite.—Schaller, W. T., 3.
Velates.—Douvillé, H., 22; Martin, K.
Velia.—Meunier, F.
Velutina.—Cossmann, M., 1.
Vendée (France).—Baudouin, M., 1.
Venericardia.—Dall, W. H., 2; Dickerson, R. E., 4; Marshall, P., 8; Waring, C. A.

Venetia (Italy).—Anon., 102; Canavari, M., 3; Stefanini, G., 1.
Ventelay (Marne).—Charpiat, R., 1.
Vents, persistence of, Stromboli.—Washington, H. S., 8.
Venus.—Clark, B. L., 1; Dall, W. H., 2; Dickerson, R. E., 6.
Vercelli (Piedmont).—Menozzi, A.
Verdun (France).—Leriche, M., 6.
Verin (Spain).—Choffat, P., 6.
Vermes, Palæozoic.—Chapman, F., 9.
Vermetus.—Cossmann, M., 1; Harmer, F. W., 2.
Vermiceras.—Onetti, A.; Zuffardi, P., 1.
Vermicino (Italy).—Clerici, E.
Vermipora.—Williams, M. Y., 11.
Vermont (U.S.A.).—Berry, E. W., 20; Dale, T. N., 1 & 2; Eggleston, J. W.; Goldthwait, J. W., 6; Keith, A.; Wigglesworth, E.
Vero (Florida).—Berry, E. W., 13; Chamberlin, R. T., 1 & 2; Chamberlin, T. C., 5; Hay, O. P., 4; Hrdlička, A., 2; MacCurdy, G. G., 3; Sellards, E. H., 4 & 7–9; Vaughan, T. W., 10; Wickham, H. F., 4.
Verruca.—Withers, T. H., 1.
Verrucano, Monte Pisano.—Fucini, A.
Verrucocœlia.—Oppliger, F.
Vers (Saône-et-Loire).—Dehorne, Y., 3.
Versailles (France).—Bertrand, L., 2–4.
Versilia (Tuscany).—Preller, C. S. du R., 4.
Vertebræ, of *Camarasaurus*.—Mook, C. C., 1.
——, of Dinosaurs.—Moodie, R. L., 9.
——, of Plesiosaur, Spitsbergen.—Wiman, C., 4.
——, evolution of.—Williston, S. W., 8.
Vertebrata, Cretaceous & Eocene.—Priem, F., 6.
——, Jurassic.—Richardson, L., 9.
——, Miocene.—Fourtau, R., 5.
——, Pleistocene.—Bate, D. M. A., 1; Hay, O. P., 1–9; Merriam, J. C., 3; Troxell, E. L., 1 & 2.
——, Tertiary.—Merriam, J. C., 1, 2, 4–11 & 14–16.
——, Triassic.—Schroeder, H.
——, classification of pre-Jurassic.—Watson, D. M. S., 7.
——. *See also* Pisces, &c.
Vertebrate beds, Oklahoma.—Beede, J. W., 1.
—— palæontology.—Lull, R. S., 9; Woodward, A. S., 1.
Vertebrates, air-breathing, development.—Barrell, J., 7.
——, flying, geological history.—Young, G. W., 2.
——, use of, in correlation.—Matthew, W. D., 4; Woodward, A. S., 3 & 9.
Vertigo.—Dollfus, G. F., 5.
Vesteraalen, Is. (Norway).—Ravn, J. P. J., 6; Vogt, T., 1 & 3.
Vesterbotten, dist. (Sweden).—Geer, S. de, 4.
Vestergötland, dist. (Sweden).—Grœnwall, K. A., 5; Muehlen, L. von zur; Munthe, H., 4.
Vestmanland, dist. (Sweden).—Post, L. von, 3.
Vesulian stage.—Grossouvre, A. de, 2; Lissajous, M.
Vesuvianite.—Eakle, A. S., 2; Flink, G., 4.
Vesuvius (Italy).—Cesàro, G., 1 & 10; Fiore, O. de, 1; Rossi, R.; Sabatini, V., 7.
——, Observatory.—Viola, C., 2.
Veszelyite.—Doelter, C., 1.
Veticillites.—Douvillé, H., 4.
Vetofistula.—Etheridge, R., *fil.*, 6.
Veyrier (Savoy).—Cartier, A.; Montandon, R., 1.
Vézère Valley (France).—Landau, E.
Vibracellina.—Canu, F., 11.
Vicentino (Italy).—Azzini, F.
Vichy (France).—Glangeaud, P., 4.
Vicia.—Knowlton, F. H., 4.
Vicininodiceras.—Trueman, A. E., 5.
Vicksburg—Jackson area (Mississippi).—Hopkins, O. B., 2.
Vico (Italy).—Checchia-Rispoli, G., 4.
Victoria (Australia).—Chapman, F., 3–10, 16, 17, 20–24, 27, 28, 31 & 35; Hall, T. S., 1–3; Harris, W. J.; Mahony, D. J., 1–3; Pritchard, G. B.; Skeats, E. W., 1–4; Summers, H. S.
——, coal-fields.—Herman, H., 2 & 3.
——, meteorite falls.—Walcott, R. H.
——, minerals & ore deposits.—Taylor, M. T.; *see also* VICTORIA.
——, orography.—Hart, T. S.
Victoria dist. (B.C.).—Clapp, C. H., 1.
Vielsalm (Belgium).—Anten, J., 1.
Vierwaldstätter See.—*See* Lucerne, Lake of.
Vieskar (Norway).—Reusch, H., 10.
Viking gas-field (Alberta).—Slipper, S. E., 5.
Villabate (Sicily).—Gregorio, A. de, 5.
Ville-sur-Couzances (Meuse).—Charpiat, R., 3.
Villers-St. Ghislain (Belgium).—Heupgen, J.
Villorita.—Dall, W. H., 2.
Vincennes Quadrangle (Illinois).—Rich, J. L., 4.
Vindhyan Limestone, spiral impression in.—Beer, E. J.
Vindobonian, Sea of Marmora Basin.—Arabu, N., 1 & 2.
Vinon (Var).—Zurcher, P., 2.
Viola.—Reid, C., 6.
Virgatosphinctes.—Steiger, P.
Virgiana.—Williams, M. Y., 11.

Virgin Is. (W. Indies).—Vaughan, T. W., 7.
Virginia (U.S.A.).—Bassler, R. S., 2; Berry, E. W., 11; Gardner, J. A.; Powell, S. L.
——, coal in.—Butts, C., 1; Campbell, M. R., 1.
——, minerals & ore deposits.—Hewett, D. F., 3; Watson, T. L., 1 & 3–5; Weld, C. M., 1.
Virginia.—Savage, T. E., 3.
Virginia Water (Surrey).—Bromehead, C. N., 4.
Virgulina.—Cushman, J. A., 1.
Viscous flow, laws of.—Michelson, A. A.
Visingsö Limestone, Sweden.—Wiman, C., 2.
Visuni (Sind).—Walker, H.
Vitis.—Knowlton, F. H., 4; Reid, C., 6.
Vitrea.—Cockerell, T. D. A., 3.
Vitrival (Belgium).—Lassine, A., 1.
Vitriwebbina.—Chapman, F., 18.
Vittangi (Lappland).—Geijer, P., 12.
Viverravus.—Depéret, C., 5; Matthew, W. D., 11.
Vivipara.—Annandale, N., 1; Dall, W. H., 2.
Vobarno (Lombardy).—Bonomini, C., 1; Cacciamali, G. B., 2.
Voglans (Dauphiné).—Gorceix, C., 3; Révil, J., 5.
Vogtite.—Hallimond, A. F., 3.
Vojusa R. (Albania).—Niculescu, C., 2.
Volaia Pass (Carnic Alps).—Vinassa de Regny, P., 3.
Volatile agents, underground.—Daly, R. A., 12; Emmons, W. H., 3.
Volborthella.—Braastad, J.
Volcanic action, final result of.—Meunier, S., 2.
—— activity, water &.—Day, A. L., 3.
—— ash, Kilauea.—Powers, S., 5.
—— ——, Yukon Basin.—Capps, S. R., 5.
—— changes, in metamorphism.—Lindgren, W., 9.
—— domes, Pacific.—Powers, S., 6.
—— dust, Oklahoma.—Buttram, F., 1.
—— dust-veils.—Arctowski, H.
—— ejectamenta, unusual form of.—Pratt, W. E., 8.
—— eruptions, Ambrym I.—Frater, M.; Gregory, J. W., 30; Marshall, P., 3.
—— ——, Bassano (Italy).—Sabatini, V., 8.
—— ——, Bulusan (Philippine Is.).—Goldsberry, J. P.
—— ——, Costa Rica.—Calvert, P. P.
—— ——, Danish possesssions.—Harboe, E. G., 3.
—— ——, Etna.—Fiore, O. de, 2.
Volcanic eruptions, Katmai (Alaska).—Griggs, R. F.
—— ——, Kilauea.—Powers, S., 4 & 5.
—— ——, Mauna Loa.—Jaggar, T. A., *fil.*, 1–3; Wood, H. O., 2 & 3.
—— ——, Mexico.—Arreola, J. M.
—— ——, Mt. St. Helens (Washington).—Jillson, W. R., 2.
—— ——, Quetzaltepec. — Lacroix, A., 55.
—— ——, Raung (Java).—Brouwer, H. A., 2.
Volcanic eruptions, Sakura-Jima.—Kotô, B.; Omori, F., 1 & 2; Sabatini, V., 4.
—— ——, Soputan.—Mesdag, F. T.
—— ——, Stromboli.—Fiore, O. de, 3; Perret, F. A.; Platania, G., 1; Riccò, A.
—— ——, Usu.—Ōinouye, Y., 3.
—— ——, Vesuvius.—Fiore, O. de, 1.
—— ——, 1895–1913.—Sapper, K., 2 & 3.
—— ——, ancient, Yukon Terr.—Capps, S. R., 5.
—— ——, marine transgressions &, in Egypt.—Barthoux, J., 3.
—— ——, Oligocene, Cent. France.—Glangeaud, P., 4.
—— exhalations.—Brun, A., 4 & 8; Sabatini, V., 9–12.
—— ——, Etna.—Platania, G., 2; Ponte, G., 1.
—— ——, carbon compounds in.—Sabot, R. C., 2.
—— foci, regularity of interval between.—Friedlaender, I.
—— glass, Cantal.—Lacroix, A., 41.
—— islands, Pacific.—Daly, R. A., 6 & 8.
—— ——, subsidence of.—Davis, W. M., 11.
—— mechanism.—Washington, H. S., 8.
—— necks, Ayrshire.—Wilson, G. V.
—— phenomena, meteorological conditions accompanying.—Gemmellaro, M.
—— plateau, N. Atlantic.—Hawkes, L., 2.
—— rocks.—*See* Igneous rocks.
—— Series, Pahang.—Willbourn, E. S., 2.
—— sublimations, Roumania.—Pamfil, G. P.
Volcanoes.—Anderson, T.; Bonney, T.G., 2.
——, Armenia.—Oswald, F.
——, Auvergne.—Glangeaud, P., 2–4 & 6–14.
——, Cent. Caucasus.—Loewinson-Lessing, F., 2 & 5.
——, Geitsi Gabib (German S.W. Africa).—Rogers, A. W., 3.
——, Hawaii.—Jaggar, T. A., *fil.*, 1–7; Powers, S., 4 & 5; Shepherd, E. S.; Wood, H. O., 2 & 3.

Volcanoes, Hernic.—Cumin, G., 2.
——, Italy.—Lacroix, A., 50, 53 & 54.
——, —— (S.).—Lavis, H. J. J.; Washington, H. S., 11.
——, Japan.—Deprat, J., 5; Simotomai, H., 2.
——, Kilauea, model.—Sayles, R. W., 3.
——, Mexico.—Wittich, E., 3.
——, Morocco (Central).—Gentil, L., 4.
——, New Zealand.—Moore, E. S., 4.
——, Philippine Is.—Heise, G. W., 6.
—, Stromboli.—Washington, H. S., 8.
——, Sudan.—Lacroix, A., 75 & 78.
——, Teneriffe.—Navarro, L. F., 3 & 4.
——, Wurlali, D. E. I.—Molengraaff, G. A. F., 3.
——, Carboniferous.—Cadell, H. M., 1.
——, distribution of.—Gregory, J. W., 15.
——, experimental.—Belot, E., 7.
——, lunar, meteorites &.—Belot, E., 10.
——, mediæval representation of.—Washington, H. S., 9.
——, theory of, applied to lunar surface.—Meunier, S., 6 & 14.
Volsella.—Newton, R. B., 1 & 9.
Voltaggio (Piedmont).—Rosati, A., 2.
Voltri (Liguria).—Franchi, S., 2.
Voluta.—Bell, A., 5; Dickerson, R. E., 5.
Volutilithes.—Martin, K.
Volutoderma.—Greco, B., 3.
Volutomitra.—Harmer, F. W., 2.
Vosges, Mts. (Alsace).—Lapparent, J. de, 6.
Vouastia.—Cossmann, M., 1.
Vrilletta.—Wickham, H. F., 3.
Vulcanicity, Lake District.—Green, J. F. N., 10.
Vulcanism, causes & laws of.—Belot, E., 5 & 7.
——, problems of.—Iddings, J. P., 1.
——, structure &, in Italy.—Rovereto, G., 5.
——, theory of.—Cochain, A., 2; Guebhard, A., 20 & 26; Meunier, S., 2, 3, 6 & 14; Taramelli, T., 1.
Vulcanology, Institute of, Naples.—Ròiti, A.
Vulpavus.—Matthew, W. D., 11.

Wabana Mine (Newfoundland).—Hayes, A. O., 2.
Wady Zem (W. Morocco).—Russo, P., 6.
Wäggital (Switzerland).—Ahrens, H.
Wagon Wheel Gap (Colorado).—Larsen, E. S., 4.
Waihi Mine (N.Z.).—Jarman, A.
Waikaka gold-field (N.Z.).—*See* NEW ZEALAND, 3.
Waikato Valley (N.Z.).—Henderson, J., 3.
Waikouaiti Sandstone, N.Z.—Thomson, J. A., 15.
Wairua Falls (N.Z.).—Cotton, C. A., 6.
Wakamarina Valley (N.Z.).—Henderson, J., 2.
Wakefield (Quebec).—Bowen, N. L., 8.
WALCOTT, C. D., *Biogr.*—*See* Anon., 90.
Waldheimia.—Hede, J. E., 2; Krenkel, E.
Waldviertel (Austria).—Becke, F., 2.
Wales (North), building stone.—P——, S. M.
—— (—), iron ores.—Cantrill, T. C., 7.
—— (South), coal measures.—Simoens, G.
—— (—), coal-field.—Cantrill, T. C., 6; Dixey, F., 2; Jordan, H. K.; Strahan, Sir A., 10, 11 & 15; Tallis, J. F.
—— (—), iron ores.—Sibly, T. F., 2.
—— (—), refractory materials.—Howe, J. A.
Wales coal-field (Utah).—Clark, F. R., 2.
Walgett (N. S. Wales).—Chapman, F., 2.
Walhalla (Victoria).—Baragwanath, W., 9; Howitt, A. M., 5; Junner, N. R., 3.
Wallangarra dist. (Queensland).—Saint-Smith, E. C., 1.
Wallaroo mining dist. (S. Australia).—Jack, R. Lockhart, 2.
Walloon Series (Queensland).—Walkom, A. B., 1–3.
Walls, earthquake-proof.—Omori, F., 5.
Wallsworth (Gloucestershire).—Richardson, L., 2.
Walter's Ash (Bucks.).—Sherlock, R. L., 9.
Waltham Canyon (California).—Nomland, J. O., 3.
Wanapitei, Lake (Ontario).—Collins, W. H., 2.
Wandoo (Queensland).—Ball, L. C., 13.
Wangaloa beds, N.Z.—Marshall, P., 8.
Wankie coal-field (Rhodesia).—Lightfoot, B.
Wanlockhead (Dumfries).—Mitchell, J.
Wanneria.—Walcott, C. D., 3 & 11.
Wanstead Park (Essex).—Butcher, C. H.
Waptia.—Walcott, C. D., 11.
War, geology &.—Cleland, H. F., 2; Craveri, M., 3; Gregory, J. W., 27; King, W. B. R.; Renier, A., 5; Strahan, Sir A., 4.
——, water-supply in.—Meinzer, O. E., 4.

Warbreccan (Queensland).—Prior, G. T., 1.
Wardie Shales, Edinburgh.—Tait, D., 2.
Wardite.—Doelter, C., 1.
Ware (Herts.).—Green, J. F. N., 7; Sherlock, R. H., 4.
Warkalli beds, Travancore.—*See* Travancore, 1 & 2.
Warren mining dist. (Arizona).—Bonillas, Y. S.
Warren River dist. (Western Australia).—Woodward, H. P., 5.
Warrnambool dist. (Victoria).—Mahony, D. J., 2.
Wartenberg (Switzerland).—Struebin, K., 2.
Warwickshire.—Illing, V. C., 1; Cobbold, E. S., 2.
Wasatch Formation, Wyoming.—Matthew, W. D., 11–14.
—— Region (Utah).—Butler, B. S. 4.
Wasatchia.—Sinclair, W. J., 1.
Washakie Formation, Rocky Mountains.—Johannsen, A., 2.
Washakius.—Matthew, W. D., 14.
Washington (U.S.A.).—Bretz, J. H.; Dickerson, R. E., 5; Jillson, W. R., 2; Merriam, J. C., 17; Rathbun, M. J., 1; Smith, W. S., 1 & 2; Weaver, C. E., 1–5.
——, coal-fields.—Daniels, J.; Saunders, E. J.; Woodruff, E. G., 2.
——, minerals.—Bastin, E. S., 4; Jenkins, O. P., 1 & 2; Jones, E. L., 3.
——, production of metals.—Gerry, C. N.
——, water-supply.—Marshall, R. B., 1, 6 & 8–10; Van Winkle, W., 1.
Wasquehal (Nord).—Pagniez, —, 2.
Water, Alaska.—Ellsworth, C. E., 1.
——, Alberta.—Dowling, D. B., 9 & 14.
——, Almeria Prov., Spain.—Rubio, J. M., 2.
——, Antigua.—Tempany, H. A., 1; Vaughan, T. W., 4.
——, Arizona.—Meinzer, O. E., 6.
——, Arkansas.—Stephenson, L. W., 5.
——, Atlantic Coast Basins, U.S.A.—Babb, C. C.; Covert, C. C.
——, Australia.—Chapman, W. S.; Richert, J. G., 1; Taylor, G., 2; *See also* New South Wales, 5.
——, Belfort, France.—Dollfus, G. F., 11.
——, Birkenhead.—*See* Birkenhead.
——, Bokhara.—Tichanoff, M.
——, Brisbane.—*See* Queensland, 4.
——, British Somaliland.—Thompson, A. B., 2.
——, Butte, Montana.—Meinzer, O. E., 2.
——, California.—Bryan, K.; Clark, W. O.; McGlashan, H. D., Mendenhall, W. C.; Wood, B. D.
Water, Cardiff.—Priestley, C. H.
——, Colorado R. Basin.—Follansbee, R., 4 & 5.
——, Connecticut.—Ellis, A. J.; Gregory, H. E., 10.
——, Edinburgh.—Horne, J., 1.
——, Essex.—Whitaker, W., 8.
——, Exeter.—Anon., 107.
——, Georgia.—Stephenson, L. W., 4.
——, Great Basin, U.S.A.—Henshaw, F. F., 2; Porter, E. A., 2.
——, Gulf of Mexico Basins.—Follet, W. W.; Gray, G. A.; Stevens, G. C.
——, Hawaii.—Larrison, G. K.; Pierce, C. H., 2.
——, Hinckley, Leicestershire.—Pickering, A. J.
——, Hudson Bay Basins.—Horton, A. H., 1; Hoyt, W. G., 4; Lamb, W. A., 3.
——, Iowa.—Gabriel, G. A.; Hoyt, W. G., 1.
——, Jesi, Italy.—Fossa-Mancini, E., 3.
——, Kaikoura Valley, N.Z.—*See* New Zealand, 5.
——, Kansas.—Cook, W. A.; Meinzer, O. E., 1.
——, London.—Foord, A. S.; Hayward, R. B.; Tabberner, J. L.; *see also* London, 1 & 4.
——, Melbourne, Victoria.—Ritchie, E. G.
——, Mexico.—Camacho, H.; Galvez, V., 1–5; Paredes, T., 1–3; Villarello, J. D.
——, Mississippi Basin.—Follansbee, R., 2 & 3; Horton, A. H., 1; Lamb, W. A., 3.
——, Missouri Basin.—Lamb, W. A., 1 & 2.
——, Nevada.—Carpenter, E.; Meinzer, O. E., 3.
——, New Jersey.—*See* New Jersey, 1 & 2.
——, New Mexico.—Darton, N. H., 1; Meinzer, O. E., 5.
——, New York.—Knight, N., 2; Walker, J. B.
——, Newbald, East Yorkshire.—Griffith, P.
——, Northern Terr., S. Australia.—Winters, R. J.
——, Northamptonshire. — Thompson, B., 1 & 3.
——, Ohio R. Basin.—Horton, A. H., 2 & 3.
——, Oregon.—Van Winkle, W., 2.
——, Pacific Coast, U.S.A.—Henshaw, F. F., 1 & 3.
——, Palestine.—Maxwell, W. H.
——, Peru.—Portocarrero, J. N., 1 & 2; Sutton, C. W., 1 & 2; Torres, A. D.
——, Philippine Is.—Cox, A. J., 2; Heise, G. W., 1–5.
——, Piave Basin, N. Italy.—Toniolo, A. R.

Water, Po Basin.—Airaghi, C., 1; Craveri, M., 1 & 2; Menozzi, A.; Stella, A.; Vinassa de Regny, P., 2.
——, Portsmouth.—Thompson, D. H.
——, Portugal.—Fleury, E., 2.
——, Rio Grande Basin.—Follansbee, R., 1.
——, St. Lawrence R. Basin.—Hoyt, W. G., 2 & 3.
——, S. Australia.—*See* SOUTH AUSTRALIA, 14–21.
——, Spain.—Dupuy de Lome, E., 4.
——, Texas.—Deussen, A., 1 & 2.
——, Tripolis.—Gregorio, A. de, 7.
——, Upsala.—Svenonius, F., 5.
——, Washington State.—Van Winkle, W., 1.
——, Western Australia.—Bleazby, R.; O'Brien, P. V.; *see also* WESTERN AUSTRALIA, 6–8.
——, absence of, in sandstones.—Johnson, B. H.; Reeves, F.; Shaw, E. W., 9.
——, action of ores on.—Nishihara, G. S., 1.
——, action of, on rocks at high temperatures.—Brun, A., 1 & 2.
——, alkalinity of.—Bruckmiller, F. W., 2; Prideaux, E. B. R.
——, in Bagshot beds.—Eassie, W.
——, boring for.—Dow, E. B.
——, in Bunter rocks.—Cockin, G. M.
——, carbonated.—Choffat, P., 6.
——, in coal.—Hulett, G. A.; Mack, E.
——, colour of.—Bancroft, W. D.
——, formation of, on surface of Earth.—Garrigou, F., 3.
——, ——, in oxidation of coal.—Graham, J. I., 2.
——, gases dissolved in.—Richardson, F. W.
——, geology of.—Boulton, W. S.
——, iodine & bromine in, S. Australia.—Cooke, W. T., 2.
——, manganese in natural.—Vincent, C., 1.
——, mining operations &.—Kegel, K.; Stuckey, N. S.
——, in oil-fields.—Daly, M. R., 3; Johnson, R. H., 3; Washburne, C. W., 2.
——, percolation.—Hall, S.
——, planetary origin of.—Garrigou, F., 2.
——, rate of solution of nitrogen & oxygen in.—Adeney, W. E.
——, in rock magmas & veins.—Campbell, J. M., 4.
——, separation of salt from saline.—Kindle, E. M., 11.
——, in soils.—Dumont, J.; Haigh, W. D.
——, solution of oxygen in.—Heise, G. W., 9.
——, sulphates in.— Bruckmiller, F. W., 1; Dole, R. B.; Shelton, N. S., 1 & 3.
Water, sulphide ores &.—Hodge, E. T.
——, from tin-dressing floors, Cornwall.—Philip, J. C.
——, total hardness of.—Behrman, A. S.
——, volcanic activity &.—Day, A. L., 3; Dillingham, F. T.
——. *See also* Sea water, Springs & Wells.
Water analyses, Mexico.—*See* MEXICO, 2.
—— ——, United States, Clarke, F. W., 2.
—— ——, Western Australia.—Simpson, E. S., 3.
—— ——, in the field.—Heise, G. W., 10.
—— ——, interpretation of.—Rogers, G. S., 3.
—— -courses, Switzerland.—Girardin, P., 9.
—— -fall, New Zealand.—Cotton, C. A., 6.
—— -level, diurnal variations of, in wells.—Bilham, E. G., 1–3.
—— -levels, ancient, New York.—Barker, E. E.
—— -parting, Victoria.—Hart, T. S.
—— -power, Alaska.—Ellsworth, C. E., 2.
—— ——, Cascade Range, Washington.—Parker, G. L.
—— ——, Gt. Britain.—Gibson, A. H., 1 & 2; Newlands, A.
—— ——, India.—Dickinson, A.
—— ——, United States.—Gilbert, C. G., 5; Smith, G. O., 3.
—— -supply, in war.—Meinzer, O. E., 4.
—— -table, Cambrai.—Dollé, L., 2.
—— ——, Potsdam.—Meissner, O., 2.
—— ——, Senegal.—Hubert, H., 3 & 7.
—— ——, Surrey (E.).—Dewey, H., 3.
Waterberg (S. Africa).—Marais, E. N.
Waterbury dist. (Connecticut)—Ellis, A. J.
Waterlimes, New York.—Clarke, J. M., 11.
Waterville (Maine).—Little, H. P., 1 & 2.
WATSON, J., *Obit.*—*See* Anon., 91; *&* Marr, J. E., 5.
Watten (Pas-de-Calais).—Gosselet, J., 6.
WATTENWYLL, K. B., *Obit.*—*See* Schulthess, A. von.
WATTS, W. W., *Biogr.*—*See* Anon., 92.
Waukon (Iowa).—Howell, J. V.
Wave, abnormal, Cape Breton.—McIntosh, D. S., 2.
——, earthquake.—*See* Earthquake wave.
——, tidal, on off side of Earth from the Moon.—Hull, E.

Wave-erosion.—Coleman, A. P., 8.
Wavellite.—Koechlin, R., 2.
Waverley Formation, Ohio.—Hyde, J. E., 2.
—— Shale, Kentucky.—Scott, D. H., 9.
Weak Law (Haddingtonshire).—Day, T. C., 3.
Weald escarpment, geological history. —Marriott, R. A., 2.
Wealden, Belgium.—Halet, F., 2.
——, England.—Woodward, A. S., 13 & 27.
——, Italy.—Fucini, A.
——, Peru.—Zeiller, C. R., 2.
——, Pyrenees.—Palacios, P., 1.
Wealden sands.—Relf, F. J.
Weardale (Durham).—Louis, H., 1.
Weathering, of allanite.—Watson, T. L., 2.
——, climatic zones &.—Meyer, H. L. F.
——, of coal.—Porter, J. B.
——, fluted.—Abbott, G., 3.
——, of granite.—Barton, D. C., 2; Sosman, R. B., 1; Tarr, W. A., 1 & 4.
——, of limestone & granite, Portugal.—Fleury, E., 4–6.
——, of magnesian limestone.—Abbott, G., 6.
——, of marbles & linestones.—Merrill, G. P., 7.
——, of rocks, Finland.—Rosberg, J. E., 1.
——, ——, Gotland. — Hesselman, H., 1.
——, ——, Sweden.—Ahlmann, H. W., 3; Tamm, O., 1 & 3.
——, of sandstone.—Hæberle, D.
Webbina.—Smith, J., 1.
Weber R. (Utah).—Anderson, G. E.
Weddell Sea.—Bruce, W. S.; Mossman, R. G.
Weedia.—Walcott, C. D., 2.
WEHRLIN, J., *Obit.*—*See* Dollfus, G. F., 15.
Weibyeïte.—Artini, E., 2.
Weichs-Schaffhausen dist. (Baden).—Schalch, F.
Weichselia.—Stopes, M. C., 2; Zeiller, C. R., 2.
WEINBERGER, I., *Obit.*—*See* Anon., 93; *&* Berwerth, F., 2.
Weinbergerite.—Doelter, C., 2.
Weisshorn (Switzerland).—Monterin, U., 2.
Weka Pass dist. (N.Z.).—*See* NEW ZEALAND, 4.
—— —— Stone.—Speight, R., 11.
Wekusko Lake area (Manitoba).—Alcock, F. J., 4; Bruce, E. L., 6.
Welha (Victoria).—Howitt, A. M., 1.
Well Hill (Kent).—Chandler, R. H., 4; Leach, A. L., 3.
Well-sections, Belgium.—Halet, F., 2 & 3.
Wellington dist. (N.Z.).—Broadgate, F. K.; Cotton, C. A., 9.
Wells, Elmdale, Kansas.—Smith, A. J.
——, Essex.—Whitaker, W., 8.
——, Hampshire.—Whitaker, W., 5.
——, Northamptonshire. — Thompson, B., 1; Walford, E. A., 2.
——, Po Basin.—Roccati, A., 3 & 4.
——, Sicily.—Gregorio, A. de, 5.
——, influence of tides on.—Carus-Wilson, C., 2; Heise, G. W., 5; Kewley, J.
——, variations of water-level in.—Bilham, E. G., 1–3.
Welshman's Gully (Victoria).—Howitt, A. M., 3.
Welwyn (Herts.).—Sherlock, R. L., 7.
Wenatchee R. Basin (Washington).—Marshall, R. B., 8.
Wenlock Limestone, Shropshire.—Johnston, M. S., 1.
Wensum R. Valley (Norfolk).—Clarke, W. G., 4; Sainty, J. E.
Wernerite, Mexico.—Wittich, E., 1.
Werribee R. Basin (Victoria).—Fenner, C., 2.
Weschener, Mt. (Bohemia).—Scheit, A.
West Indies.—Stanton, T. W., 2; Vaughan, T. W., 3, 4, 7 & 11–13.
West Kimberley (Western Australia). —Blatchford, T., 1; Etheridge, R., *fil.*, 1.
West Virginia (U.S.A.).—Prosser, C. S., 1; Reger, D. B.
West Wickham (Kent).—Leach, A. L., 10.
Westbury-on-Severn (Monmouthshire).—Embrey, G., 1.
Westerham (Kent).—Fagg, C. C., 1.
Western Australia.—Antevs, E., 1; Aurousseau, M., 2; Chapman, F., 18; Etheridge, R., *fil.*, 1; Gregory, J. W., 21, 23 & 24; Newton, R. B., 13; Thomson, J. A., 12; Woolnough, W. G.
—— ——, Bibliography. — *See* WESTERN AUSTRALIA, 13.
—— ——, minerals & ore deposits.—Jutson, J. T., 1–4 & 6; McKeown, M. R.; Maitland, A. G., 1–3; Simpson, E. S., 1–6; Stuckey, N. S.; Woodward, H. P., 1–5; *see also* WESTERN AUSTRALIA, 1–5.
—— ——, physiography.—Jutson, J. T., 5 & 7–12; Montgomery, A.
—— ——, water-supply. — Bleazby, R.; O'Brien, P. V.; *see also* WESTERN AUSTRALIA, 6–8.
Western Port (Victoria).—Keble, R. A., 2.
Western Province (S. Africa).—Van der Riet, B. de St. J., 2; Versfeld, W., 1.
Western Rivers dist. (Northern Terr., S. Australia).—Basedow, H., 3.

Westland Divn. (N.Z.).—Henderson, J., 1.
Westmorland.—Bauer, G. M.; Garwood, E. J. 1.
Westonia gold-field (Western Australia).—Stuckey, N. S.
Westphalian, Belgium.—Racheneur, F.; Renier, A., 4.
——, N. France.—Depape, G.
Westport Divn. (N.Z.).—Henderson, J., 1; Morgan, P. G., 9.
Wewoka Formation, Oklahoma.—Girty, G. H., 1.
Wewokella.—Girty, G. H., 1.
Wexford, Co. (Ireland).—Bell, A., 2 & 8.
Whaitsia.—Haughton, S. H., 6.
Whalebone, found at high level, Norway.—Norberg, H. L.
Whangie, The (Dumbarton).—Tyrrell, G. W., 10.
Wheathampstead (Herts.).—Sherlock, R. L., 3.
Wheaton dist. (Yukon Terr.).—Cairnes, D. D., 7.
Whitby (Yorkshire).—Fox-Strangways, C.
White Bluffs (Washington).—Merriam, J. C., 17.
White Head (Co. Antrim).—Smith, G. F. H., 1.
White Mts. (New Hampshire).—Goldthwait, J. W., 5; Johnson, D. W., 2.
White R. (Oregon).—Marshall, R. B., 11.
White River dist. (Alaska).—Capps, S. R., 6.
—— —— —— (Yukon Terr.).—Cairnes, D. D., 3 & 5.
Whitella.—Parks, W. A., 2.
Whitfield Co. (Georgia).—Merrill, G. P., 10.
Whitfieldella.—Reed, F. R. C., 4; Savage, T. E., 4; Williams, M. Y., 4 & 11.
Whiting Bay (Arran).—Tyrrell, G. W., 5.
Whitneya.—Dickerson, R. E., 5.
Whitneyite.—Borgstrœm, L. H., 3.
Whittlesford (Cambridge).—Strahan, Sir A., 1.
Wichita (Kansas).—Meinzer, O. E., 1.
Widnes (Lancashire).—Maidwell, F. T., 2.
Wight, I. of.—Brydone, R. M., 4, 6 & 7; César-Franck, R.; Colenutt, G. W.
Wildhorn & Wildstrubel, Mts. (Switzerland).—Lugeon, M., 8.
Wilkeite.—Doelter, C., 1.
Willamette R. Basin (Oregon).—Marshall, R. B., 4 & 11.
Willesden Green (Middlesex).—Green, J. F. N., 3.
Williams, H. S., *Obit.*—*See* Anon., 94; Schuchert, C., 15; *&* Weller, S., 2.
Williams, W. H., *Obit.*—*See* Woodward, A. S., 8.
Williamsonia.—Thomas, H. Hamshaw, 3; Wieland, G. R., 1.
Williamsoniella.—Thomas, H. Hamshaw, 2.
Williston, S. W., *Obit.*—*See* Lull, R. S., 10; Osborn, H. F., 9; & Woodward, A. S., 26.
Willmott, A. B., *Obit.*—*See* Coleman, A. P., 6.
Willow Creek dist. (Alaska).—Capps, S. R., 1.
Willowbunch coal-field (Saskatchewan).—Rose, B., 1 & 4.
Wiltshire.—Bartlett, B. P.
Wimanella.—Walcott, C. D., 7 & 8.
Wimbledon Common (Surrey).—Grist, C. J., 2.
Winchell, N. H., *Obit.*—*See* Anon., 95; Bain, H. F., 2; & Upham, W., 1 & 3.
Winchester (Ohio).—Foerste, A. F., 2.
Wind, work of, in warming a lake.—Birge, E. A., 2.
Wind-blown deposits, United States.—Redway, J. W.; *see also* Loess.
—— -erosion.—*See* Deflation.
—— -gaps.—Miller, A. M., 2.
Wind River Formation, Wyoming.—Branson, E. B., 4 & 5; Matthew, W. D., 11–14; Schrader, F. C., 1.
Windermere, Lake.—Crewdson, Rev. Canon.
Windermere mining dist. (B.C.).—Galloway, J. D., 4.
Winding Hill (New Brunswick).—Cairnes, D. D., 9.
Windmill Hill (Wiltshire).—Kendall, H. G. O., 4.
Winds, glaciers &.—Enquist, F., 2.
Windsor area (Berkshire).—Dewey, H., 8.
Windsor Formation, Nova Scotia.—Hyde, J. E., 1 & 3.
Windy Arm dist. (Yukon Terr.).—Cairnes, D. D., 8.
Wing (Bucks.).—Davies, A. M., 2.
Winnipeg (Manitoba).—McLearn, F. H., 3.
—— R. Basin.—Wallace, R. C., 3.
Winnipegosis area (Manitoba).—Johnston, W. A., 11.
Winterbourne (Gloucestershire).—Cantrill, T. C., 8.
Wirral, dist. (Cheshire).—Greenwood, H. W., 4.
Wisconsin (U.S.A.),—Hussakof, L., 5; Martin, L.; Raymond, P. E., 4; Savage, T. E., 3 & 7; Trowbridge, A. C., 2.
——, minerals.—Bagg, R. M.; Buchanan, G. H., 2; George, H. C.
Witherite deposits, Gt. Britain.—Carruthers, R. G., 6.
Witkop Mine (Transvaal).—Anderson, C., 2.

Witwatersrand (Transvaal).—Bonde, W. von; Cooke, L. H.; Draper, D., 1; Goodchild, W. H., 2; Holford, W. G.; Honnold, W. L.; Horwood, C. B.; Mellor, E. T., 1–4; Sawyer, A. R.; Stanley, G. H., 1; Tyrrell, J. B., 8; Wagner, P. A., 5; Young, R. B., 3.
Woburnia.—Stopes, M. C., 2.
Woëvre, dist. (Alsace).—Steinmann, G., 5.
Woking (Surrey).—Bromehead, C. N., 4.
Wolfram, Argentina.—Kantor, M.; Keidel, H.; Sharp, R. C.
——, Northern Terr., S. Australia.—Gray, G. J., 3.
——, Queensland.—Ball, L. C., 2 & 6.
——, Victoria.—Baragwanath, W., 3.
——, *see also* Tungsten.
Wolfram lodes.—Jones, W. R., 6.
—— -ochre.—Baumhauer, H., 1.
Wolframite.—Fitch, R. S.; Hess, F. L., 4; Wherry, E. T., 2.
Wollastonite.—Eakle, A. S., 2; Ferguson, J. B., 4; Flink, G., 1; Manasse, E., 1.
Wolsk (Russia).—Chirvinski, P. N., 2.
Wonder (Nevada).—Burgess, J. A.; Young, J. W.
Wonthaggi coal-field (Victoria).—Broome, G. H.; Herman, H., 3; Hunter, S., 2.
Wood, fossil.—Antevs, E., 7; Chapman, F., 31; Holden, R.; Negri, G., 1; Sinnott, E. W., 3; Yehara, S., 2.
——, ——, method of hardening.—Tinne, C.
——, replacement of, by calcite.—Greenland, C. W.; Wherry, E. T., 11.
Wood Mountain coal-field (Saskatchewan).—Rose, B., 3 & 4.
Wood-tin, Nevada.—Knopf, A., 4.
Woodbine (Queensland).—Saint-Smith, E. C., 6.
Woodbridge dist. (Suffolk).—Boswell, P. G. H., 9.
Woodlark I. (Papua).—Stanley, E. R., 1; *see also* Australia, 9.
Woodline, Coolgardie G.F. (Western Australia).—Honman, C. S., 2.
Woodocrinus.—Wright, J., *fil.*, 2.
Woodruff Creek (Utah).—Jones, C. C., 1.
Woodsfield Quadrangle (Ohio).—Condit, D. D., 3.
Wood's Point dist. (Victoria).—Whitelaw, O. A. L., 1.
Woodward, A. S., *Biogr.*—*See* Woodward, H., 1.
Woodward, H. P., *Obit.*—*See* Anon., 96; & Harker, A., 6.
Woodwardites.—Mœller, H.
Woolacombe Bay (Devon).—Rogers, I.; Woodward, A. S., 30.
Woolagiri (Mysore).—Smith, P. B.
Woolhope Limestone, Radnorshire.—Garwood, E. J., 3.
Wooster (Ohio).—Bonine, C. A.
Worcestershire.—Gray, J. W.
Worm-borings.—Bather, F. A., 10; Carus-Wilson, C., 5.
—— -burrows, in fish-scales.—Wiman, C., 9.
Worms Heath (Surrey).—Whitaker, W., 7.
Worthenia.—Girty, G. H., 1; Mansuy, H., 2.
Worthington Mine (Sudbury, Ont.).—Walker, T. L., 1.
Wreford Limestone, Kansas.—Twenhofel, W. H., 6.
Wrekin dist. (Shropshire).—Barke, F.; Parsons, L. M., 3.
Wurlali, volcano (E. Indies).—Molengraaff, G. A. F., 3.
Würmian, Isère Valley.—Hollande, D.
—— glaciers, N. Italy.—Franchi, S., 8; Novarese, V., 1.
Würtemberg (Germany).—Woodward, A. S., 11.
Wurtzite.—Greenwood, H. W., 1.
Wye Valley (Radnorshire).—Richardson, L., 5.
Wyoming (U.S.A.).—Blackwelder, E., 2, 4 & 9; Branson, E. B., 1 & 3–5; Cockerell, T. D. A., 1, 3 & 6; Dake, C. L., 3 & 5; Gilmore, C. W., 1, 5 & 6; Granger, W., 1; Hewett, D. F., 1; Knight, S. H., 1 & 2; Knowlton, F. H., 3; Loomis, F. B., 1 & 3; Lull, R. S., 2; Matthew, W. D., 11–14 & 15; Mehl, M. G., 2; Moody, C. L., 3.
——, minerals & ore deposits.—Mansfield, G. R., 2; Schrader, F. C., 1; Spencer, A. C.
——, oil & gas fields.—Barnett, V. H., 1 & 2; Lupton, C. T., 3.
——, production of metals.—Henderson, C. W., 2.
Wyre, Forest of (Shropshire).—Kidston, R., 4.

X-rays, crystal structure &.—Bragg, W. H., 2, 4 & 5.
——, fossils &.—Heron-Allen, E., 2.
Xanthoarsenite.—Doelter, C., 1.
Xanthophyllite.—Eakle, A. S., 1.
Xenarthra, Pleistocene.—Hay, O. P., 5.
Xenaspis.—Diener, C.
Xenaster.—Schuchert, C., 2.
Xenoliths, graphite-bearing.—Wagner, P. A., 3.
——, pitchstone, in basalt, Arran.—Tyrrell, G. W., 7.
Xenophora.—Cerulli-Irelli, S., 1; Dall, W. H., 2 & 5; Dickerson, R. E., 6; Greco, B., 3; Morgan, J. de, 1; Newton, R. B., 1 & 6.

Xenophoridæ, Pliocene.—Cerulli-Irelli, S., 1.
Xenotheca.—Arber, E. A. N., 8.
Xenotime.—Doelter, C., 1; Lacroix, A., 17; Vegard, L., 2.
Xestoleberis.—Chapman, F., 3 & 16.
Xiphias.—Eastman, C. R., 2.
Xiphodon.—Depéret, C., 5.
Xiphopeza.—Lull, R. S., 3.
Xolisma.—Berry, E. W., 5.

Yakima R. Basin (Washington).—Parker, G. L.
Yale mining dist. (B.C.).—Brewer, W. M., 8.
Yalgoo gold-field (Western Australia).—Jutson, J. T., 3; Woodward, H. P., 4; *see also* WESTERN AUSTRALIA, 11.
Yampa R. (Colorado).—Hancock, E. T.
Yampi Sound (Western Australia).—Simpson, E. S., 2.
Yankee Doodle Reef (Victoria).—Howitt, A. M., 2.
Yaw R. (Burma).—Cotter, G. de P., 1.
'Yellow Conglomerates,' Weak Law.—Day, T. C., 3.
Yellow Pine dist. (Nevada).—Hale, F. A.; Knopf, A., 1 & 3.
Yellowstone National Park (Wyoming).—Lee, W. T., 6.
Yenberrie (N. Terr., S. Australia).—Gray, G. J., 3.
Yèn-Minh (Tonkin).—Deprat, J., 7.
Yerilla, Coolgardie G.F. (Western Australia).—Jutson, J. T., 6.
Yeringian stage, Victoria.—Chapman, F., 5 & 6.
Yilgarn gold-field (Western Australia).—Blatchford, T., 2; *see also* WESTERN AUSTRALIA, 1 & 10.
Ymir mining camp (B.C.).—Drysdale, C. W., 4 & 6.
Yoldia.—Anderson, F. M.; Clark, B. L., 1 & 5; Dall, W. H., 2; Girty, G. H., 1; Newton, R. B., 1 & 6; Pilsbry, H. A., 3.
Yorkshire.—Armstrong, A. L.; Baker, E. A.; Buckman, S. S., 5; Gilligan, A., 1–3; Thomas, H. Hamshaw, 2 & 3; Woodward, A. S., 10.
——, Bibliography.—Sheppard, T., 3.
—— (East).—Sheppard, T., 1; Fox-Strangways, C.
—— (South).—Fearnsides, W. G., 1–5; Kendall, P. F., 2.
Yorktown Formation, Virginia.—Gardner, J. A.
Yosemite Valley (California).—Mathes, F. E.
Ypresian, Aisna & Marne Valleys.—Charpiat, R., 5, 6 & 8.
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—— River, discharge of.—Porter, E. A., 1.
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—— ——, pits in natural crystals of.—Ichikawa, S., 4.

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Zinc-lead ores, Idaho.—Hershey, O. H.; Umpleby, J. B., 3.

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—— phosphates, British Columbia.—Phillips, A. H., 1.

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Zygospira.—Reed, F. R. C., 4; Trowbridge, A. C., 3.

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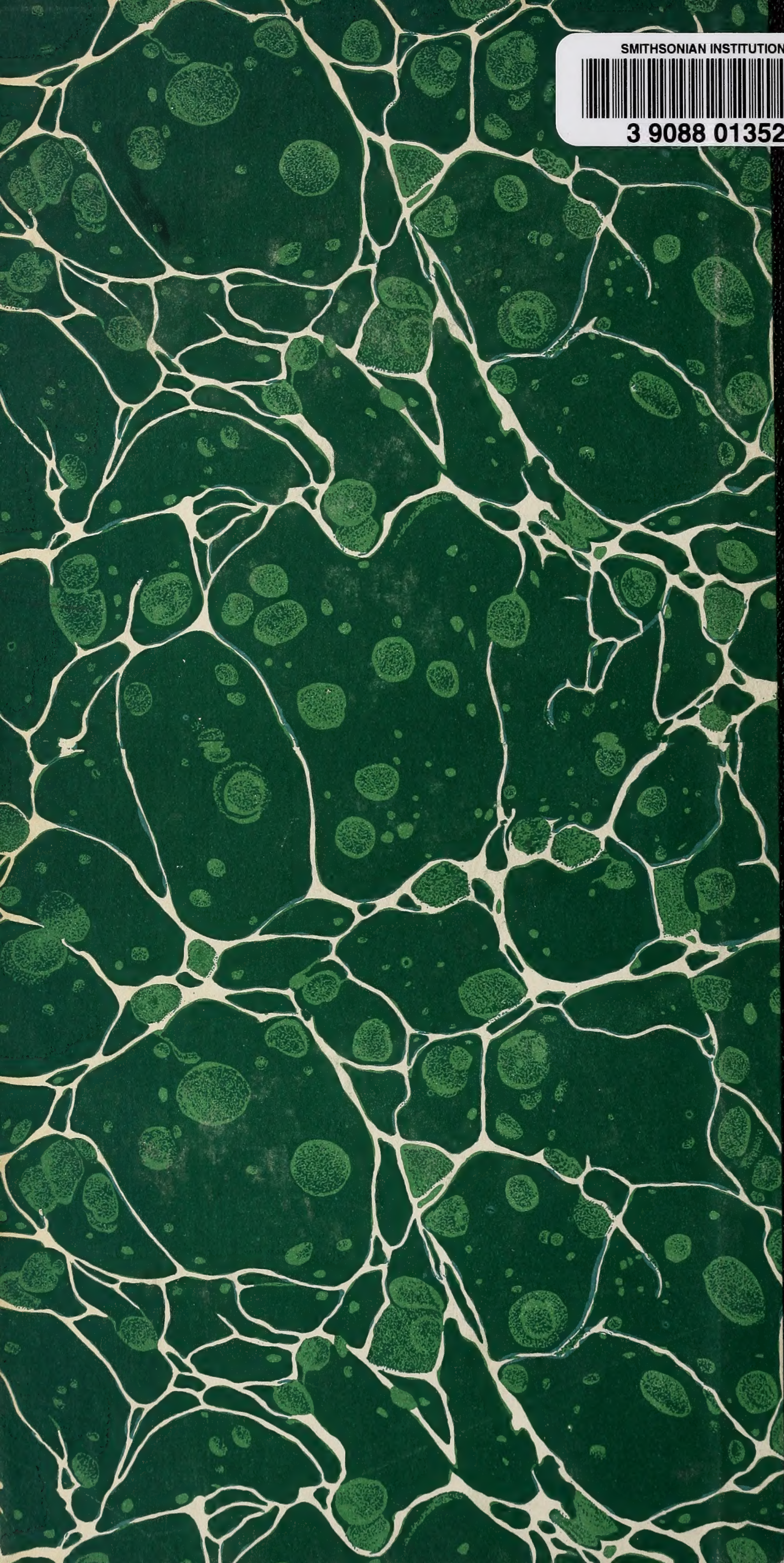

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